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Attitudes of Preventive Care Specialists and Registered Dietitians Toward Their Obese Patients

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School of Public Health

ATTITUDES OF PREVENTIVE CARE SPECIALISTS AND REGISTERED DIETITIANS TOWARD THEIR OBESE PATIENTS

by

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A Dissertation in Partial Fulfillment of the

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in Preventive Care

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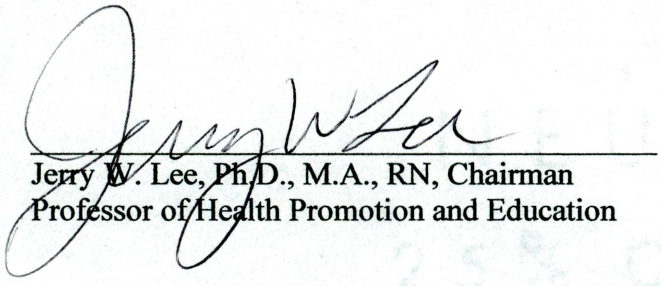
Maryanna Gabriel

Each person whose signature appears below certifies that this dissertation, in his opinion, is adequate in scope and quality as a dissertation for the degree of Doctor of Public Health.



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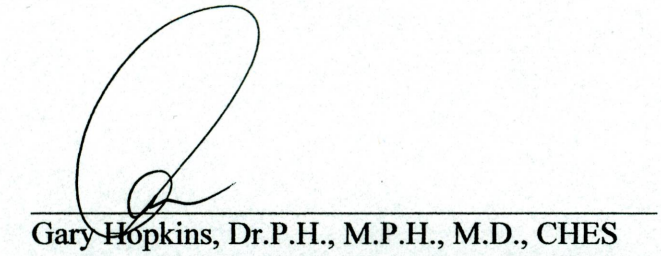

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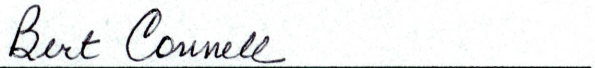

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ABSTRACT OF THE DISSERTATION

Attitudes of Preventive Care Specialists and

Registered Dietitians Toward Their Obese Patients

by

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Doctor of Public Health in Preventive Care

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The purpose of this study was to compare preventive care specialists and registered dietitians regarding attitudes toward obese patients, to compare both groups with Canadian and American nurses previously studied, and to determine whether relationships exist between personal characteristics and attitudes toward obese patients. Questionnaires were sent to members of the American Preventive Care Association and 1,000 randomly selected members of the California Dietetic Association. Sixty-seven preventive care specialists and 579 registered dietitians participated in the study. A modified version of the *Attitudes Toward Obesity* scale, developed by Bagley, et al. was used to measure attitudes. Preventive care specialists and registered dietitians differed significantly on only two of twenty questions measuring attitudes toward obese patients. Preventive care specialists were slightly more likely to think that obese adult patients should be confronted if found cheating on their diet. Registered dietitians were slightly more likely to prefer not to work with obese adults. When responses of preventive care

specialists, registered dietitians, and American and Canadian nurses were compared on five statements regarding obese adults, registered dietitians tended to hold the least prejudiced attitudes. A factor analysis divided questionnaire items into five factors: Dislike Obese, Weight Loss through Self-Control, Obese are Hard to Work With, Obese Have Negative Emotions, and Obese are Like Others. Relationships were found between personal characteristics of respondents and the factors, Dislike Obese, Weight Loss through Self-Control, and Obese are Like Others. Subjects who were registered dietitians, did not hold graduate degrees, and spent less time working with obese patients helping them lose weight tended to score higher on the factor, Dislike Obese. Preventive care specialists scored higher on the factor, Weight Loss through Self-Control. Asians appeared to believe that self-control is more important than either Caucasians or Hispanics. Practitioners who spent more time with eating disorder patients scored higher on the factor, Obese are Like Others. Prejudice toward the obese may be predicted by a belief that obesity can be prevented through self-control. Training programs for preventive care specialists and registered dietitians should address attitudes toward patients that might decrease professional efficacy.

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ACKNOWLEDGEMENTS

I am thankful to have had the privilege of attending Loma Linda University, School of Public Heath. In the practice of Christianity, many *talk the talk,* but few *walk the walk.* At Loma Linda, Christian love and kindness abound. One feels that staff and employees here serve a higher purpose, and are dedicated to more than just the pursuit of knowledge. I have changed and grown in many ways since coming to the school of public health. I have developed spiritually, mentally, and emotionally as a result of what I have learned here.

Writing this dissertation has been the most difficult task I have ever attempted. At times, I felt that I could not gather the mental resources and confidence I needed to move forward with it. I know that I could not have done this without the help and support of Dr. Jerry Lee. Dr. Lee's remarkable intellect, patience, and unpretentious persona have been a tremendous gift. Often, people feel less intelligent when confronted with superior intellect. My experience with Dr. Lee has had the opposite effect. No matter how frustrated I felt with the work I was doing, I always felt much more capable and intelligent after a session with Dr. Lee. It is not often that one who is given the gift of intelligence is able to share it with others. Dr. Lee accomplishes this on a daily basis. I thank God for placing Dr. Lee at Loma Linda University, where he can continue to help others, as he has helped me.

I want to thank the late Dr. Glen Blix and Dr. Gunter Reiss, who encouraged me to complete my doctorate and served, for a time, on my doctoral committee. I also want to thank Dr. Bert Connell and Dr. Gary Hopkins who stepped forward to serve on my committee on short notice.

CHAPTER 1

INTRODUCTION

A. Definition of the Problem

The success of current nutritional interventions, on behalf of the obese, warrants investigation. As North Americans yearn for the increasingly thin body-ideal, the average individual weighs more than ever before (Department of Health and Human Services, Public Health Service, 1998). Even individuals participating in programs supervised by health professionals rarely maintain achieved weight loss (Berg, 1993).

Prejudice against the obese is widely held, and socially accepted, in Western societies (Harris et al., 1991). As early as the 1960's, studies suggested that health professionals often mirrored the prejudice of the general population, despite their scientific training and professional codes of ethics (Maddox and Liederman, 1969; Goodman, et al., 1963). More recent research suggests this has not changed (Davis, 1998; Garner and Nicol, 1998; Loewy, 1995; Oberrieder, et al., 1995; Maroney and Golub, 1992; Bagley, et al., 1989). Furthermore, there is evidence that these attitudes may affect treatment (Loewy, 1995).

Dietitians and preventive care specialists play a primary role in the treatment of obesity. If we, as health professionals, are to maintain a leadership role in the area of weight management, and treatment of obesity, it is imperative we assess our practice, including the attitudinal milieu in which therapeutic relationships with the obese exist.

B. Purpose and Rationale of the Study

It is our ethical duty as professionals to give quality and unbiased care to all of our patients. Bagley, et al. (1989) developed the *Attitudes toward Obesity* scale, which

we have adapted for use in this study. They define the *true professional* as "one who is capable of leaving behind the community's prejudices against certain groups, and who can treat the stigmatized minority in a caring, empathic and objective fashion." They believe attitude research is an important, but neglected, area in the development of professionalism.

Attitudes toward patients have been found to influence the behavior of health practitioners (Vandereycken, 1993; Loewy, 1995). It is important we study these attitudes, and help practitioners change them if necessary. This could lead to improved outcomes of treatment programs conducted by these professionals.

The objective of this investigation is to survey attitudes toward the obese held by registered dietitians, specifically those dietitians who are members of the California Dietetic Association (CDA), and preventive care specialists, specifically those who are members of the American Preventive Care Association (APCA). We will accomplish this using a questionnaire mailed to 1,000 randomly selected members of the California Dietetic Association, and the 200 members of the American Preventive Care Association.

We will compare attitudes toward the obese held by these groups (registered dietitians and preventive care specialists) to determine how, and if, they differ from each other. We will also compare attitudes of both groups to attitudes of nurses previously studied in Canada (Bagley, et al., 1989) and California (Maroney and Golub, 1992). Lastly, we will attempt to determine whether attitudes toward obesity are related to the following respondent characteristics:

1. Ethnicity;
2. Gender;

3. Level of education;
4. Level of satisfaction with regard to own body weight;
5. Level of difficulty experienced when attempting to control own weight and eating behavior;
6. Percent practice-time spent helping the obese lose weight;
7. Percent practice-time spent with eating-disorder patients;
8. Religion, and
9. Degree to which approach to life is based upon religion.

C. Research Questions

1. Are there significant demographic differences between preventive care specialists and registered dietitians?
2. Are there significant differences between preventive care specialists and registered dietitians in terms of professional practice time spent treating obesity?
3. Are there significant differences between preventive care specialists and registered dietitians in terms of professional practice time spent treating eating disorders?
4. Do preventive care specialists and registered dietitians differ significantly in terms of the following personal weight control issues?
    a. Preference as to losing, maintaining, or gaining weight;
    b. Preferred weight change in pounds;
    c. Difficulty controlling own weight, and

d. Difficulty controlling own eating behavior.

5. Are there significant differences between preventive care specialists and registered dietitians in responses to statements regarding obesity (taken from Bagley, et al.'s *Attitudes toward Obesity* scale, 1989)?

6. Do responses of preventive care specialists and registered dietitians participating in this study differ significantly from those of American and Canadian nurses previously surveyed (Maroney and Golub, 1992; Bagley, et al., 1989)?

7. Is there a relationship between personal and demographic data of respondents and their attitudes toward the obese?

D. Definitions

Registered dietitians are professional nutritionists who have obtained at least a Bachelor's degree, which includes a predetermined course of study and professional practice experiences in a program accredited by the Commission on Accreditation of Dietetics Education of the American Dietetic Association. Successful completion of the registration examination enables the use of the Registered Dietitian credential. Registered dietitians maintain their certification by completing continuing education courses. Registered dietitians surveyed for this study are members of the California Dietetic Association, the state arm of the American Dietetic Association.

Preventive care specialists are trained as practitioners in nutrition, exercise physiology, and stress management. Most have received a doctoral degree (Dr. P.H., Preventive Care) from Loma Linda University, School of Public Health. Preventive care specialists maintain their certification by completing continuing education courses.

Those who have participated in this study are members of the American Preventive Care Association.

E. Theoretical Model

Group members who have experienced some personal failure are more likely to emphasize the differences between their group and out-groups (Meindl & Lerner, 1984).

Jenks (1998) found prejudice toward the obese to be positively associated with personal efforts to lose weight. Bagley, et al. (1989) found self-perception of being mildly overweight to be a statistically significant indicator of a more rejecting attitude toward the obese. These investigators hypothesize that difficulties of self-concept concerning body-image prevent acceptance of others who are perceived as "truly deviant." This is consistent with psychological mechanisms previously described by social psychologists studying the relationship between self-esteem and prejudice (Bagley, et al., 1979).

Negative intergroup behavior may be situationally determined (Duckitt, 1993). Registered dietitians and preventive care specialists spend part of their professional practice time treating obesity. They routinely compare all patients' weights to *normal* values, describing them as *within normal limits*, or as a percentage above or below *ideal body weight*. This process of labeling the obese as abnormal or falling short of the ideal, and then prescribing punitive weight loss diets that usually fail, may convince these practitioners that the obese are abnormal, noncompliant and/or otherwise deficient. This hypothesis will be supported by our study if the attitudes of registered dietitians and preventive care specialists surveyed are found to be more negative toward the obese than those of nurses previously surveyed.

Waite (1995) attributes prejudice against the obese to the belief that obesity is totally preventable. This hypothesis is supported by Jenks (1998). Crandall and Beirnat (1990) compared prejudice against the obese to other forms of prejudice, such as racism. Common among people holding various forms of prejudice, including prejudice against the obese, are conservative, authoritarian attitudes, and belief in a just world, in which people get what they deserve.

CHAPTER 2

LITERATURE REVIEW

A. Introduction

This literature review will examine prevalence of obesity, etiology of obesity, self-esteem as it relates to obesity, effectiveness of current treatment programs for obesity, prejudice against the obese within the general population, history and prevalence of prejudice against the obese among health professionals, and the importance of practitioners' attitudes with regard to patient care. Conclusions drawn from the research presented in this review will then be summarized. Finally, the importance of studying attitudes of registered dietitians and preventive care specialists toward the obese will be discussed.

B. Prevalence of Obesity

The year 2000 goal of the Public Health Service (Healthy People 2000) was 20% prevalence of obesity for both male and female Americans. The Department of Health & Human Services, Public Health Service (1998) reported the prevalence of overweight has increased since 1980 for nearly all age, ethnic, and gender groups. Overweight prevalence in adult males increased to 34% (according to data for 1988-94) from a baseline (measured from 1976-80) of 24%. Over the same time period prevalence of overweight for adult females increased from 27% to 37%.

Data for 1988-94 showed 24% of adolescents, aged 12 to 19, to be overweight, increased from 15% in 1980. During this time period, children aged 4-5 showed an increased prevalence of obesity, rising from 7.7% to 11.2% among girls, and from 4.4%

to 5% among boys. Obesity in children aged 6 to 11 increased from 7.6% in 1980 to 13.6% in 1994. (Department of Health & Human Services, Public Health Service, 1998)

C. Etiology of Obesity

It is clear that obesity and disordered eating arise from multiple risk factors (Love and Seaton, 1991). Miller (1991) points out the importance of recognizing the serious damage resulting from past oversimplification of obesity, by both health professionals and the general public. She labels attempts to classify all obese persons as compulsive over-eaters a gross misrepresentation of the facts. Stunkard, et al.'s (1986) study of twins raised apart, for example, clearly links obesity to genetic or other pre-birth factors. The National Association to Advance Fat Acceptance, Inc. (NAAFA) stresses that being fat does not result from a lack of will power, but that body type, heredity, early childhood habits, and metabolism all contribute to obesity. (Millman, 1980)

Dieting itself may be a causative factor in disturbed eating patterns. The stigma of obesity may actually contribute to its development by encouraging people to attempt to achieve a level of thinness below their biologic norm. Guilt-induced, low calorie diets, which lower the metabolic rate, cause dieters to feel deprived, become obsessed with food, and likely binge. (Miller, 1991)

Vervaet and van Heeringen (2000) compared eating styles and attitudes toward eating among adolescent girls (mean age 16.8 years), fashion models (mean age 19 years), and eating disorder patients (mean age 24 years). All groups exhibited a preoccupation with body weight. The eating style of fashion models (who serve as our society's *model* of the most desirable female body) was comparable to that of eating disorder patients. A majority of the adolescent girls studied reported a desire to lose

weight, even though their body mass index was between 20 and 25. A substantial number of these adolescents displayed risk factors for eating disorders (vomiting, use of anorectic drugs and laxatives, eating alone, counting calories, and/or loss of control over eating).

Unrealistic expectations regarding weight loss may contribute to the diet/binge cycle described above by Miller (1991). Foster, et al. (1997) studied 60 obese women before, during, and after a 48-week treatment program for obesity. For these women, who had a mean body mass index of 36.3, the average personal goal, before treatment, was a 32% reduction in body weight. Prior to treatment, the subjects defined a 17 kg potential weight loss resulting from treatment as disappointing. The average weight loss resulting from the treatment program was 16 kg. This disparity between patients' expectations and the actual results of attempts at weight loss may be harmful to self-efficacy beliefs regarding weight management, thereby leading to self-fulfilling prophecies of failure. These researchers (Foster, et al., 1997) recommend that practitioners help patients accept more modest and realistic weight loss outcomes.

D. Obesity and Self-Esteem

McKinley (1995) developed the three-dimensional Objectified Body Consciousness Scales for her doctoral research at the University of Wisconsin. The three scales contained within the instrument were found to be valid and reliable for testing *surveillance* (viewing one's body as an outsider), *internalization of body shame* (internalizing cultural body standards and feeling shame when one's body does not conform), and *control beliefs* (believing that one's appearance can be controlled). McKinley then used the instrument to survey 278 young adult women, their middle-aged

mothers (n = 151), and fat women who advocated fat acceptance (n = 128). McKinley also used the Franzoi & Shields' Body Esteem scale (1984) and Ryff's Psychological Well-Being scale (1989) to survey the same three groups.

For all of the groups studied by McKinley (1995), surveillance and body shame correlated negatively with body-esteem and psychological well being, while control beliefs correlated positively with body-esteem and psychological well-being. Young adult women had higher objectified body consciousness and lower body esteem than the middle-aged women. The fat women who advocated fat acceptance had the lowest objectified body consciousness and highest body esteem of any group, after controlling for body size. Body esteem and surveillance of mothers and daughters correlated positively. Fat women scored higher on psychological well being if they were fat acceptance activists. Body esteem was related to perception of their family's approval for both fat acceptance activists and young women.

Pinhey, et al. (1997) found that obese members of cultural groups with low mean body mass indices displayed significantly lower levels of personal happiness than obese members of cultural groups with high body mass indices. His study of 398 adults from the Chamorro, Micronesian, Asian, and Filipino residents of Guam found significant negative associations between being overweight and personal happiness. Overweight Filipinos and Asians, members of ethnic groups with low average body mass indices, suffered more personal unhappiness than Chamorros or Micronesians with significantly higher body mass indices.

Matz (1999) studied 79 women, who were between 35 and 100 percent above ideal body weight, to determine risk factors associated with body image dissatisfaction

(BID). She found low self-esteem, adult teasing, and acceptance of sociocultural appearance standards to be significant contributors to BID. Race/ethnicity, socioeconomic status, and youth teasing did not contribute significantly to BID. Low acceptance of sociocultural appearance standards was associated with low BID, regardless of level of self-esteem. Highest levels of BID were associated with low self-esteem combined with high acceptance of sociocultural appearance standards.

Richard Strauss (2000) conducted the four-year National Longitudinal Survey of Youth. He found a significant relationship between obesity and changes in self-esteem during early adolescence. He also noted that negative attitudes toward obese children begin at a young age. Strauss found no significant differences in self-esteem between obese and non-obese children at ages 9 to 10. However, by ages 13 to 14 he found a tendency for the self-esteem of obese children to decrease from previously normal levels. The tendency was stronger in White and Hispanic girls. Sixty-nine percent of these obese girls showed decreased self-esteem, compared to 43% of non-obese girls. Among all ethnic groups, obese boys reported greater declines in self-esteem than non-obese boys. Obese children whose self-esteem decreased over the study period reported higher levels of sadness, loneliness, and nervousness than subjects not showing such a decrease. Children whose self-esteem decreased over the study period were also more likely to smoke and drink alcohol.

E. Effectiveness of Current Treatment Programs

Many weight loss programs, including use of a placebo, demonstrate short-term success. However, long-term success, particularly by the two-year maintenance standard of the Federal Trade Commission, is rarely shown. (Berg, 1993)

Kirk (1999) systematically reviewed the practice and organization of care related to the treatment of obesity, concluding that health professionals may not practice in the most effective manner, and may fail to use clearly effective clinical interventions. He calls for a new approach to obesity that would encompass effective treatment and prevention strategies, based upon a better understanding of obese patients.

Evans (1999) surveyed, via questionnaire, 370 obese people, who had successfully reduced their weight while attending a weight loss group. Eighty per cent had previously been advised by their physician to lose weight, but guidance on how to do this was generally judged, by respondents, to be poor. Only 22% of subjects reported receiving helpful advice from their physicians. Evans states that physicians, dietitians, and nurses are often pessimistic about their ability to manage obesity. These negative attitudes, and the belief that obesity is not a serious medical condition, may thus adversely affect the level of care received by obese patients.

Ernsberger and Koletsky (1999) propose a new approach to weight management that they believe would help improve the physical and mental well-being of obese patients. According to these authors, the prevailing view of and treatment methodology for obesity, based upon incomplete consideration of the evidence, pose a threat to public health. They advocate a wellness approach that would encourage patients to focus on a healthy lifestyle, not gaining more weight, and lowering other risk factors for disease. This wellness approach would replace the current practice of setting unrealistic weight-loss goals for patients and encouraging them to reach them through low-calorie diets and other methods that have demonstrated dismal rates of success.

F. Prejudice Against the Obese Within the General Population

1. Prejudice Against the Obese Widely Held Throughout Western Society

Prejudice against the obese is both widely held and socially accepted in Western societies (Harris, et al., 1991). This prejudice seems to affect all age groups. It seems to begin in childhood, and may be resistant to intervention programs aimed at reversing it.

Cramer and Steinwert (1998) studied attitudes toward overweight body builds in 113 preschool children, aged 3 to 5 years. Stigmatization of the obese was present in all age groups, but stronger among older children. Prejudice against the obese was pervasive in both boys and girls, and among children of all body types. Children who were overweight, however, demonstrated stronger prejudice against the obese than those who were normal weight. The authors recommend programs to prevent size discrimination, starting in the preschool years.

Bell and Morgan (2000) randomly assigned 184 elementary school children, grades three through six, to three groups. One group observed a video of an average-weight boy or girl, another group observed a video of an obese boy or girl, and a third group observed a video of an obese boy or girl which included medical information explaining the obesity. The children rated their attitudes toward the boy or girl in the video on the Adjective Checklist, and their behavioral intentions on the Shared Activities Questionnaire (SAQ-B). In general, the children rated the average-weight peer more favorably than the obese peer. Medical information had a positive effect on attitudes of younger children toward the obese peer, but a negative effect on attitudes of older children toward the obese peer. Children showed more positive behavioral intentions toward the same sex peer in all three of the experimental conditions.

Anesbury and Tiggemann (2000) conducted a study of 74 children, grades four through six. The 42 children in the experimental group were given an intervention that focused on the uncontrollability of one's body-weight. The 32 children in the control group did not receive the training. As a result of the intervention the children in the experimental group assigned less controllability to obesity. They did not, however, in comparison with the control group, change in regard to their negative stereotyping of the obese.

Waite (1995) hypothesized that, in the absence of prevention programs, preadolescents would be particularly prone to prejudice toward the obese. She studied 21 students from an independent school and 22 students from a public middle school using two projective measures and a semi-structured interview. She found public and private school students to be equally rejecting of obese peers, describing discriminatory behaviors and negative feelings toward them.

In 1982, college students rated obese people as less active, intelligent, hardworking, successful, and popular than those of average weight (Harris, et al., 1982). Those surveyed in 1988 reported they would choose an embezzler, cocaine user, shoplifter, or blind person as a marriage partner over someone obese (Tiggemann & Rothblum, 1988).

Polinko and Popovich (2001) studied 223 undergraduate students, presenting them with photographs of job applicants and asking them to evaluate them in terms of their suitability for employment. They used a computer-morphing program to allow the same stimulus applicant to be used in both average-weight and overweight conditions. The students perceived overweight job applicants as having more negative work-related

attributes. They did not, however, discriminate against overweight applicants in a mock hiring process.

Jenks (1998) studied attitudes toward the obese of 93 fourth and fifth grade teachers. She then attempted an intervention aimed at reducing prejudice toward the obese among these teachers. The intervention involved having the subjects teach a curriculum aimed at reducing prejudice toward the obese. Jenks found prejudice toward the obese, among these subjects, to be associated with personal efforts to lose weight, a belief that obesity is controllable, and parental concern about childhood weight. The intervention did not produce significant changes in attitude among the teachers who formed the subject group.

In August of 1987, Business Week reported that male MBAs more than 20% overweight earned an average of $4000 less per year than their counterparts of normal weight. The same study reported rarely finding obese women in management.

2. Prejudice Greater Against Obese Women Than Obese Men

Admiration of an increasingly, and unrealistically, thin *ideal* female body, perpetuated by the media and fashion industry, has correlated with an increase in prejudice and discrimination against overweight people, particularly against women (Fontaine, 1991). In her book, *Politics and Women's Weight*, J Chrisler (1997) argues that women are not free to choose whether they wish to diet. She blames this mostly on the media, which refuses to show the diversity of women's bodies and equates thinness with attractiveness. She argues that women of all sizes experience fat phobia and, therefore, should fight against it.

Sisson, et al. (1997) studied a group of 111 indigent children who volunteered to be tested for percentage of body-fat and perceived body image. Thirty-nine percent of the children had higher than optimal levels of body-fat. The females studied tended to view themselves as fatter, while the males viewed themselves as thinner than their actual composition. Parents identified obesity in their daughters with 88% accuracy, while they identified obesity in their sons with only 52% accuracy.

Tiggemann, et al. (2000) videotaped interviews with 67 sixteen year-old Australian girls regarding body concerns and underlying motivations for the wish to be thinner. They then analyzed the videotapes and transcribed sessions, coding them for themes that they rated according to frequency, extensiveness, intensity, specificity, and level of agreement. These researchers found sociocultural influences, especially the media, to exert the greatest pressure on these girls to be thin.

Neumark-Sztainer, et al. (1998) interviewed 50 high school girls regarding weight-related stigmatization experiences. All but two of these girls (mean body mass index 33.6) had experienced stigmatizing experiences. Of these experiences, most were direct and intentional, such as name calling and teasing. Hurtful comments and behavior by family and peers that seemed less intentional were also described. The authors point out the need for family members, teachers, and non-overweight peers to increase their awareness of the impact of their remarks and behavior toward overweight youth.

3. Demographic Indicators of Prejudice Toward the Obese

In a study of 179 undergraduates who completed measures of prejudicial attitudes, including anti-fat attitudes, Perez-Lopez, et al. (2001) found that anti-fat attitudes were stronger among men than women, stronger in Caucasians than African-Americans, and

stronger in gender-typed individuals than androgynous individuals. After controlling for demographics, weight-related variables, and social desirability, these investigators found gender-role egalitarianism, racism, and homophobia to be significantly and positively correlated with anti-fat attitudes.

Morrison and O'Connor (1999) developed the Anti-fat Attitudes Scale (AFAS) and used it to conduct four studies of 1,452 Canadian adolescents and 424 university students. Results of the four studies showed men to be more prejudiced toward the obese than women. Anti-fat attitudes were positively associated with authoritarianism, homonegativity, and political conservatism. Overweight subjects demonstrated less prejudice against the obese than those who were thin or average weight.

Hebl and Heatherton (1998) asked 22 Black and 25 White female undergraduates to rate photographs of well-dressed professional models who were thin, average, or large Black or White women. White subjects rated large women in the photographs, especially large White women, lower on attractiveness, intelligence, job success, relationship success, happiness, and popularity than average or thin women. Black subjects, however, did not demonstrate the same prejudice toward large women, especially large Black women.

Crandall, et al. (1996) surveyed 170 university students in the United States and 236 Mexican university students. They found that Mexican students were significantly less concerned about their own weight than American students, and were also more accepting of overweight individuals. For American students, prejudice against the obese was positively correlated with a belief system that attributed to individuals a responsibility for and control over life outcomes and events. For Mexican students,

prejudice toward the obese did not seem to be associated with a belief in the controllability of life events and outcomes.

Rand and Wright (2000) used line drawings of babies, children, young adults, middle-aged adults, and older adults, ranging in size from very thin to very obese to elicit ratings of ideal and socially acceptable body sizes from 303 children, 427 adolescents, 261 young adults, and 326 middle-aged adults. Similar ideal body sizes, in the midrange of fatness, were selected by all of the groups. All groups were least accepting of very thin and very obese body sizes. Tolerance for body size variations increased with age, with adults being more accepting of body size variations than younger subjects, especially children.

Lattimore (1998) surveyed 104 subjects, who were either members of the National Association to Advance Fat Acceptance (NAAFA) or Gold's Gyms, a national chain of fitness centers, using the Obesity Attitudes Scale and a demographic profile.

Subjects ranged in age from 21 to 73 years. Not surprisingly, NAAFA members expressed more positive attitudes toward the obese and obesity than members of Gold's Gyms. Among Gold's Gyms' members, women expressed more positive attitudes toward the obese and obesity than did men.

4. Etiology of Prejudice Against the Obese

Social psychologists emphasized normative group influence during the 1960's in an attempt to explain the problem of institutionalized racism and segregation in the Southern United States. Prejudice was seen as a norm embedded in the social environment. (Duckitt, 1992) This theory may be of value today, in terms of examining prejudice against the obese, particularly if one considers the role of media and the diet

industry in the promotion, and possible creation, of societal norms. Meindl & Lerner (1984) found group members who experience some personal failure more likely to emphasize the differences between their group and out-groups.

Bagley, et al. (1989) found older nurses to harbor greater negativity toward obese adults than younger nurses. They also found self-perception of being mildly overweight to be a statistically significant indicator of a more rejecting attitude toward the obese. These investigators hypothesize that difficulties of self-concept concerning body-image prevent acceptance of others who are "truly deviant." This is consistent with psychological mechanisms described by social psychologists studying the relationship between self-esteem and prejudice.

Personality theorists have observed that prejudice against the obese is similar to prejudice against other minorities in terms of being associated with conservative and authoritarian attitudes, particularly the belief that people get what they deserve. This ideology provides a logical basis and justification for this form of intolerance. (Crandall and Beirnat, 1990)

Waite (1995) attributes prejudice against the obese to the belief that obesity is totally preventable, and therefore must be the result of a slothful personality. Discriminatory behavior, according to Waite, is based on the internalization of this attitude, along with negative affect.

Harvey (2000) examined attitudes toward fat people by having subjects (n = 97) complete an extensive survey consisting of several measures of global attitudes, personal weight beliefs, beliefs regarding controllability of weight, value orientation, and personality traits. The strongest and most consistent predictor of global attitude was the

willpower subscale of the Anti-Fat Attitudes scale (Crandall, 1994). Scores on the Belief in a Just World scale were also positively associated with prejudice toward the obese. Those who believed the world was just and that people got what they deserved also tended to be more prejudiced toward the obese.

G. History and Prevalence of Prejudice Against the Obese Among Health Professionals

Studies cited in the above section show that negative attitudes toward the obese, particularly women, are widespread throughout western society. The following studies suggest that such negative attitudes occur not only in the general population, but also among health professionals to whom the obese may turn for treatment.

As early as the 1950's, there have been indications of prejudice against the obese among health professionals. Maddox and Liederman (1969) found that physicians described their obese patients as "weak-willed and awkward." Health professionals studied by Goodman, et al. (1963) consistently rated overweight patients as unlikable. During the same time period, patients reported feelings of shame, self-derogation, and embarrassment when seeing their physician regarding weight loss (Stunkard and Reader, 1958). By the 1970's, in response to patients' perception of prejudice toward them by physicians, the National Association to Advance Fat Acceptance, Inc. published names of physicians recommended as not hostile to fat people. (Millman, 1980).

Maiman, et al. (1979) surveyed nutritionists, regarding attitudes toward obesity, using a Likert-type scale of agreement. Eighty-six percent of participants stated they were currently working in weight reducing programs for obese patients. A large percentage of these professionals held disparaging attitudes toward the obese. Seventy-

four percent thought the obese had family problems, while 84% considered the obese to be self-indulgent. Participants thought emotional problems (70%), and eating as compensation for lack of love or attention (88%), were significant causes of obesity. Eighty-eight percent of participants considered "firm counseling" an appropriate method of intervention with the obese. Thirty-three percent of these professionals considered fear arousal an effective intervention technique.

These investigators (Maiman, et al., 1979) hypothesized that younger respondents would have a more liberal, or less prejudiced, attitude toward the obese and obesity, by virtue of their more recent education. The results of the study not only found no statistical differences in attitude based on age of respondents, but found professionals with less formal training less likely to maintain a disparaging image of the obese patient. These investigators concluded that attitudes toward obesity are a response to societal evaluations of obesity, rather than due to knowledge and skills acquired through professional education.

While many of these studies are decades old, more recent research suggests that prejudice toward the obese among health professionals continues. Price, et al. (1987) surveyed the beliefs, attitudes, and practices of 318 family practice physicians regarding obese patients. Many of these physicians described obese patients as lacking in self control, being lazy, and/or being sad.

Twenty-five percent of Canadian nurses surveyed by Bagley, et al. (1989) strongly agreed with the statements, "caring for an obese patient repulses me," and "I'd rather not touch an obese patient." American nurses held similar views, with one third

finding it stressful to care for an obese adult, and one third preferring not to care for an obese patient if given the choice (Maroney and Golub, 1992).

Adams, et al. (1993) surveyed 1,316 physicians regarding their treatment of obese patients. Seventeen percent of these physicians indicated they were reluctant to perform pelvic exams on obese patients. Obese women have a higher risk of developing both endometrial and ovarian carcinoma.

In a study by Oberrieder, et al. (1995), dietetics students and registered dietitians were given the Bray Attitude towards Obesity Scale (BATOS). Based on this scale, both groups were found to hold negative attitudes towards the obese. Furthermore, no significant difference was found between the attitude scores of students and dietitians. These researchers found no difference between BATOS scores of respondents reporting healthful weight and those reporting themselves overweight.

Loewy (1995) studied 52 licensed mental health professionals to determine whether they would process information about obese clients differently depending upon whether or not it was congruent with current stereotypes about the obese. In a second study, he divided the same subjects into two groups that received information about either an obese or a nonobese client. Subjects did not process information differently based upon whether information about obese clients was congruent or incongruent with current stereotypes. They did, however, make more mistakes when processing information about obese versus nonobese clients.

Garner and Nicol (1998) used The Attitudes Toward Obesity Scale (Bagley, et al., 1989) with the intention of determining gender differences among caregivers regarding attitudes toward the obese. They surveyed 23 male and 45 female nurses (mean age 38

years) and also surveyed 55 patients who were obese (mean age 54 years) or nonobese (mean age 55 years). Although they found no gender-based differences in prejudice among the nurses completing the survey, obese patients reported attitudes of caregivers toward them as significantly more negative than did nonobese patients. Whether this represents actual differences in caregiver attitudes or merely differences in how caregivers are perceived by obese and non-obese patients cannot be determined from this study.

Davis (1998) studied the influence of client weight on clinical judgments and treatment planning of psychologists, who were randomly selected from four divisions of the American Psychological Association. These psychologists were mailed a self-description and photograph (appearing either obese or non-obese) of the same woman. They were asked to, based upon the photograph and description, evaluate the woman as they would a client, giving diagnosis, treatment goals, estimations of client effort, and prognosis. These psychologists gave significantly more negative evaluations of the woman when she was presented in the obese condition. Higher levels of negativity toward the client, as presented in the obese condition, were found among female, younger, and less experienced psychologists.

The studies cited in this section indicate that prejudice toward obese patients has been prevalent among health professionals since as far back as the 1950s. Physicians, nutritionists, psychologists, and nurses have all been found to hold these negative attitudes. These attitudes may affect treatment, as indicated by the Loewy (1995) study in which mental health professionals were found to make more mistakes when processing information about obese versus nonobese clients.

H. Importance of Practitioners' Attitudes

Diet industry advertising has helped to shape societal attitudes regarding ideal body weight, while perpetuating myths regarding the etiology of, and preferred treatment for, obesity. Health professionals must examine the differences between fact and myth, and consider cultural, social, biological, and psychological factors when assessing obese clients. (Melcher and Bostwick, 1998)

Many health professionals, as documented in section G of this chapter, hold negative attitudes toward the obese. When information is received through this negative filter, it may be difficult for the practitioner to assess and respond to the multitude of needs presented by individual obese patients. Issues affecting the obese individual's healing process, from social concerns to environmental cues, may not be addressed. (Kirk, 1999)

There is evidence that practitioners' attitudes toward their patients affect the quality of treatment given. Using a six-cell randomized design, Hebl and Xu (2001) gave 122 physicians a medical chart of a male or female patient, described as average weight, overweight, or obese, presenting with a migraine headache. Physicians were asked to give their affective and behavioral reactions to the patient and to indicate how long they would spend with the patient and which of 41 medical tests and procedures they would conduct. The patients' described weights significantly affected how the physicians both viewed and treated them. These physicians viewed heavier patients significantly more negatively, said they would spend less time with them, and ordered more tests for them.

Harborne and Solly (1996) found that nurses' attitudes toward their hospitalized older patients did affect their responses to them. In this study, negative behavior toward patients, such as reprimanding them, was significantly predicted by negative emotion.

Maylor (2001) found a strong relationship between patient outcomes, in terms of prevention of pressure ulcers, and attitudes and expectations of senior nursing staff in acute and community care facilities. This author states that failure to account for beliefs, values and expectations of nursing staff could lead to patient harm.

Important relationships have been demonstrated between patients' illness beliefs and physiological/functional treatment outcomes. Patients' attitudes toward their illness, based partly upon input from their practitioner, strongly affect health behaviors such as compliance with medication, follow-up and rehabilitation attendance. (Cooper, 1998)

I. Conclusions

The literature shows that the prevalence of obesity in the United States is increasing among all age groups, in spite of efforts by health professionals to reverse this trend. The etiology of obesity is complex and often misunderstood. It may be exacerbated by misguided efforts, including low calorie diets, to lose weight. Unrealistic expectations regarding weight loss may discourage dieters, and lead to unhealthy eating patterns such as binge/purge cycles. Obesity has a negative affect on self-esteem, which may be associated with other risk factors such as smoking, alcohol consumption, and depression. Current weight loss programs have not demonstrated success in terms of the two-year maintenance standard of the Federal Trade Commission.

Prejudice against the obese is widely held throughout western society. This prejudice is greater against women than men and varies among cultural groups. It is

prevalent among all age groups. Prejudice against the obese is held by a variety of health professionals, including physicians, nurses, dietitians, and psychologists. Practitioners' attitudes may affect patient treatment. As dietitians and preventive care specialists often treat obese patients, it is important that we study the attitudes of these professionals toward the obese.

J. Importance of This Study

Ongoing help and support from physicians and other healthcare professionals (such as registered dietitians and preventive care specialists) is a key element in successful, long-term weight management (Evans, 1999). Dietitians and preventive care specialists devote a portion of their professional practice time to the treatment of obesity. As attitudes of practitioners toward clients may affect treatment, it is appropriate to further study the attitudes of these professionals toward the obese patients who turn to them for help. An understanding of attitudes toward the obese, among the professionals serving them, may lead to improved professional training and practice.

CHAPTER 3

METHODS

A. Overview

The literature has suggested that professionals who treat the obese often harbor the same prejudices against them as does the general population. These prejudices may decrease the effectiveness of treatment provided by these practitioners. Our goal was to determine whether preventive care specialists and registered dietitians, who are often responsible for treatment of obese patients, are among the professionals who harbor prejudice toward this client group. To accomplish this goal, we conducted (in 1995) a cross-sectional study of registered dietitians who were members of the California Dietetic Association (CDA), and preventive care specialists who were members of the American Preventive Care Association (APCA).

B. Subjects

Registered Dietitians are required to have completed a bachelor degree, including specific required courses in the field of nutrition, and several months of on the job training, before taking a written exam to prove competence in their field and become certified. Some dietitians then go on to obtain more education. The dietitians selected for this study were all members of the California Dietetic Association (CDA). Permission was obtained from the CDA to conduct this study of their members.

Preventive care specialists are trained at the doctoral level. Those selected for this study were members of the American Preventive Care Association (APCA) and held a Doctor of Public Health, Preventive Care, degree, or Doctor of Health Science degree,

from Loma Linda University in Southern California. Permission was obtained from the APCA to conduct this study of their members.

C. Selection of Subjects

Registered dietitians were randomly selected as subjects for this study through address labels purchased from the California Dietetic Association. These labels were numbered 1 through 6,800. A computer program developed by Jerry Lee was then used to randomly select 1000 of the 6,800 numbers. The labels corresponding to the 1000 numbers selected were then used to address envelopes sent to the subjects. All members of the APCA were included in the study as membership in this relatively new organization was considerably smaller than that of the CDA.

D. Demographics of Subjects

Table 1 shows the demographic characteristics of preventive care specialists and registered dietitians who participated in the survey. These preventive care specialists and registered dietitians did not differ significantly in age or, after the Bonferroni adjustment, ethnicity. Significant differences were found, however, in gender, education, and religion.

While the preventive care specialists were more likely to be male, registered dietitians were predominantly female. All of the preventive care specialists held a doctoral degree (Dr. P.H., Preventive Care), which is a requirement of their profession. In comparison, few registered dietitians held a comparable degree.

Preventive care specialists were most likely to be Seventh-day Adventists or, less frequently, Protestants of other denominations. They were unlikely to fall into other religious categories. Registered dietitians were more equitably distributed among the

religious categories. This difference can be explained by the fact that Loma Linda University, where all of the preventive care specialists received their doctoral degree, is a Seventh-day Adventist Institution. The Seventh-day Adventist Church is a denomination of Protestantism.

Table 1

Demographic Characteristics of Preventive Care Specialists and Registered Dietitians

Characteristic	Type of practitioner		Significance	
	Preventive care specialists ($n = 67$)	Registered dietitians ($n = 579$)	*pp*	Bonferroni p^1
Mean age (in years)	44.37	42.72	0.22	1.00
Gender			0.00	0.00
Male	61.2%	2.25%		
Female	38.8%	97.75%		
Education			0.00	0.00
Bachelor degree		28.0%		
Some post-bachelor		21.5%		
Masters degree		47.0%		
Doctoral degree	100.0%	3.5%		
Ethnicity			0.02	0.10
African-American	0.0%	2.70%		
Asian	9.1%	14.40%		
Biracial	0.0%	0.50%		
Caucasian	87.9%	77.90%		
Hispanic	1.5%	3.70%		
Native American	1.5%	0.70%		
Religion			0.00	0.00
Buddhist	0.0%	2.20%		
Catholic	1.5%	28.30%		
Hindu	1.5%	0.30%		
Jew	1.5%	4.80%		
Moslem	1.5%	0.30%		
None	4.5%	10.40%		
Other	3.0%	0.90%		
Protestant	29.9%	44.90%		
Seventh-day Adventist	53.7%	4.50%		

[1]Probability adjusted for the 5 significance tests done on demographics.

E. The Questionnaire

Subjects were surveyed using mailed, confidential questionnaires. A copy of the complete questionnaire that was used for registered dietitians can be found in Appendix A. A copy of the same questionnaire, modified for use with preventive care specialists, can be found in Appendix B. Using these questionnaires, we surveyed subjects regarding their attitudes toward the obese (see below, *Attitudes Toward Obesity Scale*) and the following personal and professional characteristics:

1. Physical characteristics: age, height, weight, gender, and race/ethnicity;
2. Satisfaction regarding own weight: I would prefer to lose weight, maintain my current weight, or gain weight (including number of pounds wanting to lose or gain);
3. Perceived difficulty maintaining own weight: from extremely difficult to not at all difficult on a Likert scale;
4. Perceived difficulty controlling own eating: from extremely difficult to not at all difficult on a Likert scale;
5. Educational background (dietitians only): 2-year degree, 4-year degree, some post-bachelor training (excluding dietetic internship), masters degree, doctoral degree, or other;
6. Amount of employment experience as a dietitian in years and months (dietitians only);
7. Year of graduation and whether or not also a registered dietitian (preventive care specialists only);

8. Percent of professional practice time spent working with obese patients to help them lose weight;
9. Percent of professional practice time spent working with eating disorder patients;
10. Religious affiliation;
11. Degree that whole approach to life is based on religion (on a Likert scale: strongly agree, agree, uncertain, disagree, strongly disagree, or does not apply), and
12. Attitudes toward obesity: a 20 item Likert scale, adapted for dietitians and preventive care specialists from the 28-question *Attitudes Toward Obesity* scale developed for nurses by Bagley, et al. (1989).

F. Attitudes Toward Obesity Scale

The questionnaires included a modified version of the 28-question *Attitudes Toward Obesity* scale developed for nurses by Bagley, et al. (1989). The scale was adapted for use with dietitians and preventive care specialists. The questionnaire sent to dietitians differed somewhat from that sent to preventive care specialists. This was due to differences in educational requirements for certification in their respective fields, and to the differing structures of their professional organizations. The attitude scale included in the questionnaire, however, was the same for both groups.

As in the studies of Canadian (Bagley, et al., 1989) and American (Maroney and Golub, 1992) nurses, a 5-point Likert scale was used to measure attitudes. Points on the scale ranged from *strongly agree* to *strongly disagree*. Obesity was not defined in order to elicit more subjective responses from the subjects.

G. Validity and Reliability of the Attitudinal Scale Developed by Bagley (1989)

Bagley, et al. (1989) provide data on the concurrent validity of their scale. Respondents in their study also completed a semantic differential scale with obese adults as the stimulus target. The semantic differential scale is well established and known to be valid. Nurse's attitudes toward obese patients, measured by the attitude scale, correlated strongly with the three aspects of the semantic differential scale (evaluation, activity, and potency of the obese). Furthermore, both aspects of Bagley's scale ("Nursing Management" and "Personality and Lifestyle") correlated equally strongly with the semantic differential scale. Bagley's scale has also demonstrated excellent internal reliability, as measured by the alpha coefficient, (0.92), indicating a high degree of intercorrelation between scale items. When American nurses were surveyed using the "Attitudes Toward Obesity" scale (Maroney and Golub, 1992) their scores were similar to the Canadian nurses surveyed by Bagley, et al. (1989).

H. Data Collection

Letters requesting participation in the study, along with questionnaires and stamped return envelopes, were sent to subjects. The questionnaires were coded to identify respondents, and conversely, those who did not respond. Reminder letters, along with another copy of the questionnaire, and another stamped return envelop, were sent to those who had not responded within 3 weeks.

I. Data Analysis

1. Demographic Characteristics

The Statistical Package for the Social Sciences (SPSS), version 10.0, was used for all analyses done in the course of this study. We first compared preventive care

specialists and registered dietitians regarding demographic characteristics, and personal and professional weight-control characteristics. Using Chi-square tests, we compared groups regarding age, gender, education, ethnicity, and religion. The Bonferroni adjustment for five significance tests was applied to the *p* values.

2. Personal and Professional Characteristics Regarding Weight Control

Using Chi-square for categorical data and T-tests for continuous data, we compared registered dietitians to preventive care specialists regarding practice time spent helping the obese to lose weight, practice-time spent with eating disorder patients, preference regarding personal weight loss, gain, or maintenance, preferred weight change in pounds, difficulty controlling own weight, and difficulty controlling own eating behavior. The Bonferroni adjustment for six significance tests was applied to the *p* values.

3. Responses of Registered Dietitians and Preventive Care Specialists to Statements Regarding Obese Adults

We compared responses of registered dietitians and preventive care specialists to each of the statements regarding obesity and the obese, obtaining a mean and standard error of the mean for each group, and running T-tests to compare the means. We applied the Bonferroni adjustment for twenty significance tests, multiplying each *p* by 20.

4. Responses of American Nurses, Canadian Nurses, Preventive Care Specialists, and Registered Dietitians to Statements Regarding Obese Adults

Five of the statements on the revised questionnaire were identical to those on the original questionnaire developed by Bagley, et al. (1989) for nurses. We compared responses, to these five statements, of American and Canadian nurses surveyed by

Maroney and Golub (1992) and Bagley, et al. (1989) to those of preventive care specialists and registered dietitians surveyed for the present study. Responses to the questionnaire statements were on a five-point Likert scale (*strongly agree, agree, uncertain, disagree,* and *strongly disagree*). For the purpose of this comparison, we condensed the categories into *agree*, *uncertain* and *disagree*.

5. Factor Analysis

In order to reduce the number of items to examine, a factor analysis was performed on questionnaire statements regarding obese adults. Based on the scree test, responses to the statements appeared to fall within five factors. We used a principle components extraction with a varimax rotation. Factor scores were then computed on the five factors using the regression method.

6. Reliability of the Factor Scales

To determine the degree of Intercorrelation between items contained in each of our factor scales, we calculated their alphas. The first factor, *Dislike Obese*, had an alpha of .62. The second factor, *Weight Loss Through Self-Control*, had an alpha of .60. The third factor, *Obese Hard to Work With*, had an alpha of .64. The fourth factor, *Obese Have Negative Emotions*, had an alpha of .57. The fifth factor, *Obese are Like Others*, had an alpha of .51.

7. Association of Personal and Demographic Data With Attitudes Regarding Obese Adults (Categorical Variables)

Our next step was to determine whether relationships existed between personal and demographic characteristics of respondents and their scores on the five factors. Using one-way analysis of variance, we compared scores on each of the five factors,

dividing respondents into groups based on profession (registered dietitian or preventive care specialist), gender, education, ethnicity, religion, and preference as to loss, maintenance or gain of weight. The Bonferroni adjustment for thirty significance tests was applied to the *p* values.

8. Association of Personal and Demographic Data With Attitudes Regarding Obese Adults (Continuous Variables)

We correlated six continuous variables (mean percent of time with obese helping them lose weight, mean percent of time spent with eating disorder patients, preferred weight change in pounds, difficulty controlling own weight, difficulty controlling own eating, and agreement with*: my whole approach to life is based upon my religion*) with each of the five factors. The Bonferroni adjustment for thirty significance tests was applied to the *p* values.

CHAPTER 4

RESULTS

A. Personal and Professional Characteristics of Preventive Care Specialists and Registered Dietitians Regarding Weight Control

Table 2 shows personal and professional characteristics of preventive care specialists and registered dietitians regarding weight-control. The two groups did not differ significantly in either mean time spent with the obese helping them to lose weight or mean percent of time working with eating disorder patients. There were also no significant differences, after the Bonferroni adjustment, among the groups in personal preferences regarding losing, maintaining or gaining weight, or preferred weight change in pounds. While the groups did not differ significantly in perceived difficulty controlling their own eating, registered dietitians had slightly more perceived difficulty controlling their own weight than preventive care specialists.

Table 2

Personal and Professional Characteristics of Preventive Care Specialists and Registered Dietitians Regarding Weight Control

Characteristic	Type of practitioner		Significance	
	Preventive care sp. ($n = 67$).	Registered dietitians ($n = 579$)	p	Bonferroni p
Mean percent time spent with obese helping them lose weight	18.7%	17%	0.58	1.00
Mean percent time spent with eating disorder patients	2.8%	4.10%	0.40	1.00
Prefer to lose, maintain, or gain weight			0.04	0.22
Prefer to lose weight	55.2%	64.8%		
Prefer to maintain weight	40.3%	34.0%		
Prefer to gain weight	4.5%	1.2%		
Preferred weight change in pounds	-7.01	-10.09	0.10	0.60
Difficulty controlling own weight (scale of 5, higher number = less difficult)	3.88	3.41	0.00	0.00
Difficulty controlling own eating (scale of 5, higher number = less difficult)	3.82	3.57	0.07	0.42

[1]Probability adjusted for the 6 significance tests done on personal and professional characteristics.

B. Agreement of Preventive Care Specialists and Registered Dietitians With Statements Regarding Obese Adults

Table 3 shows level of agreement of registered dietitians and preventive care specialists with statements regarding obesity. While there were six statements on which preventive care specialists and registered dietitians differed, significant differences in agreement to only two of twenty statements regarding obese adults persisted after the Bonferroni adjustment. Preventive care specialists were more in agreement with the statement, *obese adult patients should be confronted if found cheating on their diet.* Registered dietitians, however, were more likely to agree that, *if given the choice, most dietitians (or preventive care specialists) would prefer not to work with obese adults."* Agreement with these statements, however, varied less than one point on a five-point scale. Regarding confronting the obese, preventive care specialists were only slightly above *uncertain* on the five-point scale of agreement, while registered dietitians were slightly below *uncertain* concerning agreement with the same statement. Regarding not working with the obese, while registered dietitians were slightly higher in agreement with the statement than preventive care specialists, both fell within the category of *disagree*.

Table 3

Agreement of Registered Dietitians and Preventive Care Specialists With Statements Regarding Obesity

Statements regarding obesity	Type of practitioner: Registered dietitian (n = 579) Mean*	SEM	Preventive care specialist (n = 67) Mean*	SEM	p	Bonferroni P^1
The most effective way to control obesity is strict reduction of caloric intake.	2.09	0.04	2.42	0.15	0.02	0.41
Obesity in adults can be prevented by self-control.	2.64	0.04	2.81	0.14	0.24	1.00
Obese adults should be put on a weight-loss diet when in the hospital.	2.53	0.04	2.69	0.12	0.23	1.00
Few obese adults are pushy or aggressive.	2.88	0.04	3.11	0.11	0.04	0.85
Working with an obese adult is emotionally draining.	2.86	0.04	2.91	0.13	0.70	1.00
Dietitians (or preventive care specialists) feel uncomfortable when working with obese adult patients.	2.35	0.04	2.04	0.11	0.01	0.15
Obese adult patients should be confronted if found cheating on their diet.	2.74	0.05	3.31	0.13	0.00	0.00
It is unlikely than an adult of normal weight would want to marry an obese adult.	2.49	0.04	2.61	0.12	0.28	1.00
Weight loss is only a matter of changing one's lifestyle.	2.75	0.05	2.75	0.15	0.99	1.00
Working with an obese adult is stressful.	2.69	0.04	2.63	0.12	0.62	1.00
Working with an obese adult usually repulses me.	1.74	0.03	1.61	0.10	0.19	1.00
Obese adult patients are no more demanding than other patients.	3.45	0.04	3.45	0.13	0.99	1.00
I often feel impatient when working with an adult obese patient.	2.33	0.04	2.07	0.09	0.03	0.54
If given the choice, most dietitians (or preventive care specialists) would prefer not to work with an obese patient.	2.43	0.04	2.09	0.10	0.00	0.04
It is easy to feel empathy for an obese adult.	3.50	0.04	3.60	0.13	0.40	1.00
Few obese adults are over-indulgent.	2.70	0.04	2.48	0.11	0.06	1.00
Obese adults rarely express their true feelings.	2.82	0.04	2.83	0.11	0.92	1.00
Most obese adults feel sorry for themselves.	2.80	0.03	2.82	0.11	0.83	1.00
Most obese adults experience unresolved anger.	3.11	0.03	3.07	0.11	0.73	1.00
Few obese adults are lazy.	3.07	0.04	3.06	0.11	0.92	1.00

**Responses on five point scale, strongly disagree = 1, uncertain = 3, strongly agree = 5*

[1]Probability adjusted for the 20 significance tests done on agreement with statements regarding obesity.

C. Responses of American Nurses, Canadian Nurses, Preventive Care Specialists and Registered Dietitians to Statements Regarding Obese Adults

Table 4 shows the differences between preventive care specialists, registered dietitians, American nurses and Canadian nurses in level of agreement (on a five-point Likert scale) with five statements regarding obese adults, which were identical in this study and in two previous studies (Maroney and Golub, 1992; Bagley, et al., 1989). There were significant differences in agreement, between the groups, on four out of five of the statements. Agreement of the four groups did not differ significantly in response to *weight loss is only a matter of changing one's lifestyle*.

Registered dietitians were less than half as likely as American or Canadian nurses, and somewhat less likely than preventive care specialists, to agree that, o*besity in adults can be prevented by self-control.* Registered dietitians were also least likely to agree that *it is unlikely that an adult of normal weight would want to marry an obese adult.* All groups, however, were more likely to disagree, than agree, with this statement.

Registered dietitians were nearly three times less likely than American nurses to agree that *obese adults rarely express their true feelings.* They were slightly less likely than the remaining two groups to agree with the same statement.

Canadian nurses were least likely to agree that *most obese adults experience unresolved anger.* All groups, however, were more likely to be uncertain about this statement than to agree or disagree with it.

Table 4

Responses of American Nurses, Canadian Nurses, Preventive Care Specialists, and Registered Dietitians to Statements Regarding Obese Adults.

Question	American nurses (n=67)	Canadian nurses (n=107)	Preventive care specialists (n=67)	Registered dietitians (n=579)	p	Bonferroni p^1
Percent agree						
Obesity in adults can be prevented by self-control	62.6%	71.0%	37.3%	28.1%	0.00	0.00
It is unlikely that an adult of normal weight would want to marry an obese adult	20.8%	27.1%	24.2%	16.8%	0.00	0.00
Weight loss is only a matter of changing one's lifestyle	43.2%	29.0%	33.3%	32.5%	0.14	0.70
Obese adults rarely express their true feelings	65.6%	29.0%	27.3%	22.9%	0.00	0.00
Most obese adults experience unresolved anger	32.8%	17.8%	34.3%	27.9%	0.01	0.03
Percent uncertain						
Obesity in adults can be prevented by self-control	15.0%	13.1%	10.4%	17.0%		
It is unlikely that an adult of normal weight would want to marry an obese adult	19.4%	30.8%	22.7%	22.8%		
Weight loss is only a matter of changing one's lifestyle	4.4%	19.6%	7.6%	10.2%		
Obese adults rarely express their true feelings	28.3%	23.4%	27.3%	35.5%		
Most obese adults experience unresolved anger	38.8%	44.9%	37.3%	53.6%		
Percent disagree						
Obesity in adults can be prevented by self-control	22.3%	15.9%	52.2%	54.9%		
It is unlikely that an adult of normal weight would want to marry an obese adult	59.7%	42.1%	53.0%	60.4%		
Weight loss is only a matter of changing one's lifestyle	52.2%	51.4%	59.1%	57.3%		
Obese adults rarely express their true feelings	5.9%	47.6%	45.5%	41.6%		
Most obese adults experience unresolved anger	28.3%	37.4%	28.4%	18.5%		

[1]Probability adjusted for the 5 significance tests done on responses of the four professional groups to statements regarding obese adults.

D. Factor Analysis

In order to reduce the number of items to examine, a factor analysis was performed on questionnaire statements regarding obese adults. We used a principle components extraction with a varimax rotation. Based on the scree test, responses to the statements appeared to fall within five factors. Factor scores were then computed on the five factors using the regression method. Table five shows the results of the factor analysis. The titles we have given for our interpretation of the five factors appear in table five.

The first factor included not wanting to work with, being repulsed by, feeling impatient and uncomfortable with, and lacking empathy for the obese. We labeled this factor *Dislike Obese.*

The second factor, which we labeled *Weight Loss Through Self-Control,* contained statements indicating the obese should lose weight through self-control and strict calorie reduction, even when in the hospital. This factor recommended confronting *cheating* (on diet) obese patients, and offered a simplistic solution to weight control, *only a matter of changing one's lifestyle.*

The third factor identifies the obese as demanding patients who cause practitioners to be stressed and to feel emotionally drained. We titled this factor, *Obese are Hard to Work With.*

The fourth factor identifies the obese as experiencing unresolved anger and self-pity, being rarely able to express their true feelings, and being an undesirable marriage partner. We called this factor, *Obese Have Negative Emotions.*

The fifth factor included positive statements regarding the obese indicating the obese do not fall into stereotypical categories such as being over-indulgent, lazy, or aggressive. We labeled this factor, *Obese are Like Others*.

Table 5

Factor Loadings: Attitudes Toward Obese Adults

	Factor loadings				
	Dislike obese	Weight loss through self-control	Obese hard to work with	Obese have negative emotions	Obese are like others
If given the choice most preventive care specialists/dietitians would prefer not to work with an obese patient.	.69	-.09	.26	.07	.11
Working with an obese adult usually repulses me.	.68	.29	.04	.06	-.07
I often feel impatient when working with an obese adult patient.	.62	.13	.31	.08	-.11
Preventive care specialists/dietitians feel uncomfortable when working with obese adult patients.	.55	-.01	.37	.06	.25
It is easy to feel empathy for an obese adult.	-.53	-.09	.18	.04	.42
Obesity in adults can be prevented by self-control.	.10	.71	-.05	.07	-.16
Obese adults should be put on a weight-loss diet when in the hospital.	.08	.69	.21	-.10	.12
The most effective way to control obesity is strict reduction of caloric intake.	.11	.68	.02	-.01	.04
Obese adults should be confronted if found cheating on their diet.	-.03	.44	.27	.12	-.15
Weight loss is only a matter of changing one's lifestyle.	.06	.40	-.17	.28	-.18
Working with an obese adult is emotionally draining.	.14	.09	.77	.15	-.14
Working with an obese adult is stressful.	.21	.15	.75	.18	-.08
Obese adult patients are no more demanding than other patients.	-.23	.02	-.39	-.09	.27
Most obese adults experience unresolved anger.	-.01	-.07	.21	.75	.01
Most obese adults feel sorry for themselves.	.13	.05	.06	.73	-.14
Obese adults rarely express their true feelings.	.04	.08	.19	.59	.21
It is unlikely that an adult of normal weight would want to marry an obese adult.	.39	.28	-.09	.40	.01
Few obese adults are over-indulgent.	.12	-.18	-.10	-.11	.70
Few obese adults are lazy.	-.11	-.10	-.06	.00	.69
Few obese adults are pushy or aggressive.	.02	.14	-.20	.16	.55

Note: Extraction Method -- Principal Component Analysis. Rotation Method – Varimax with Kaiser Normalization.

E. Association of Personal and Demographic Data With Attitudes Regarding Obese Adults (Categorical Variables)

Table 6 shows the association of personal and demographic data (categorical variables) with attitudes toward the obese (the five factors). When we divided respondents into groups based on categorical variables (profession, gender, education, ethnicity, religion, and preference regarding losing, maintaining, or gaining weight) they differed statistically on only two of the five factors. These factors were *Dislike Obese* and *Weight Loss through Self-Control*. The factors showing no statistical differences between any of the groupings were *Obese Hard to Work With, Obese have Negative Emotions*, and *Obese are Like Others*.

The factor, *Dislike Obese*, was related to profession and education, but no statistical differences were found when respondents were grouped according to gender, ethnicity, religion or preference regarding weight loss, maintenance, or gain. Registered dietitians scored higher on the *Dislike Obese* factor than preventive care specialists. When we compared only those registered dietitians holding doctoral degrees to preventive care specialists (all of whom hold a doctoral degree), however, the difference between the groups was no longer statistically significant, $F(1,85) = 3.73$, $p = .057$. However, the number of registered dietitians with doctoral degrees was relatively small (n=20), thus, power for the test was low. In addition, the effect size was not reduced, eta^2 (all cases) = .021, eta^2 (doctorates only) = .042. Thus, we cannot tell whether the difference between preventive care specialists and registered dietitians was actually due to education.

With regard to education, results were not entirely linear. However, those with bachelor degrees or some post-bachelor training tended to score higher on the *Dislike Obese* factor than those with graduate degrees. Of those with graduate degrees, those with master degrees scored higher than those with doctoral degrees. However, after the Bonferroni adjustment for thirty significance tests, differences on this factor with regard to education were no longer significant.

On the factor *Weight Loss through Self-Control,* there were statistically significant differences between groups of respondents based on profession, gender, education, ethnicity, and religion. The differences between religious groups did not remain statistically significant, however, after groups having less than 14 members (*Buddhist* with 13 members, *Hindu* with 3 members, *Moslem* with 3 members, and *Other* with 11 members) were combined into a single group labeled *Other*. No significant differences were found in relation to preference to lose, maintain, or gain weight.

Preventive care specialists tended to score higher on the factor, *Weight Loss through Self-Control*, than registered dietitians. The difference between preventive care specialists and dietitians remains statistically significant when gender and education are controlled, $F(1, 639) = 6.09$, $P = .014$, partial $eta^2 = .01$, however the effect size is small. Differences between preventive care specialists and registered dietitians also remained statistically significant after controlling for whether or not individuals were Seventh-day Adventists, $F(1, 640) = 12.20$, $p = .001$, partial $eta^2 = .02$.

Males tended to score higher on the factor, *Weight Loss through Self-Control*, than females, and this difference was statistically significant. It appears, however, that the difference between the genders was significant because of the difference between

preventive care specialists and registered dietitians. Within each professional group, differences between the genders, regarding *Weight Loss through Self-Control,* were not significant.

The relationship between education and the factor, *Weight Loss through Self-Control*, although statistically significant, was not linear. When only registered dietitians were used for comparison, the relationship between education and the factor, *Weight Loss through Self-Control*, lost its statistical significance.

The relationship between ethnicity and the factor, *Weight Loss through Self-Control*, was statistically significant. It appears that Asians believe self-control is more important than either Caucasians or Hispanics.

Table 6

Association of Personal and Demographic Data With Attitudes Toward the Obese (Categorical Variables)

Variable		Factor means (standard deviations) Dislike obese	Weight loss through self-control	Obese hard to work with	Obese have negative emotions	Obese are like others
Profession						
Dietitian ($n = 579$)		.050 (.992)	.048 (.989)	.000 (1.000)	-.009 (.983)	.005 (.983)
Preventive care ($n = 67$)		-.429 (.965)	.412 (1.011)	-.004 (.937)	.075 (1.142)	-.043 (1.147)
	p	.000*	.000*	.976	.515	.707
Gender						
Male ($n = 54$)		-.215 (.932)	.555 (.993)	-.021 (.935)	.141 (1.135)	-.111 (1.083)
Female ($n = 590$)		.017 (.997)	-.056 (.982)	.005 (1.006)	-.013 (988)	.010 (.994)
	p	.101	.000*	.858	.279	.396
Education						
Bachelor ($n = 162$)		.053 (.965)	.127 (.975)	-.125 (.951)	.074 (.967)	-.039 (.943)
Some post-bachelor ($n = 124$)		.210 (1.060)	-.129 (1.043)	.088 (1.027)	.073 (1.061)	.052 (1.061)
Masters Degree ($n = 272$)		-.037 (.949)	-0.118 (.977)	.010 (1.023)	-.025 (.961)	-.022 (.956)
Doctoral Degree ($n = 87$)		-.315 (1.019)	.302 (.976)	.076 (.977)	.046 (1.098)	.062 (1.153)
	p	.002	.001*	.259	.594	.788
Ethnicity						
African-American ($n = 15$)		-.049 (.683)	.236 (1.052)	-.318 (1.249)	-.039 (1.229)	-.392 (.997)
Asian ($n = 87$)		.041 (.958)	.429 (1.049)	-.218 (1.028)	.022 (.934)	.038 (.956)
Caucasian ($n = 495$)		-.044 (.998)	-.067 (.976)	.055 (.987)	.007 (1.002)	.036 (.998)
Hispanic ($n = 22$)		.115 (.810)	-.430 (.852)	.126 (.905)	-.341 (1.072)	-.418 (1.197)
	p	.792	.000*	.058	.453	.077
Religion						
Catholic ($n = 165$)		-.003 (1.035)	-.055 (.933)	-.055 (.933)	.015 (1.037)	-.011 (.994)
Jew ($n = 29$)		.162 (1.224)	-.248 (1.062)	-.248 (1.062)	-.074 (1.153)	-.009 (.938)
None ($n = 63$)		.093 (.864)	-.347 (1.015)	.133 (1.036)	.088 (.840)	-.018 (1.058)
Other ($n = 30$)		.143 (.983)	.062 (1.20)	-.344 (.816)	-.098 (.137)	.214 (1.065)
Protestant ($n = 280$)		-.015 (.937)	.019 (.941)	.052 (1.021)	-.019 (1.021)	.005 (.953)
Seventh-day Adventist ($n = 62$)		-.280 (.916)	.186 (1.044)	.085 (1.053)	.027 (1.081)	-.153 (1.209)
	p	.210	.058	.146	.955	.732
Prefer to lose, maintain, or gain weight						
Lose weight ($n = 409$)		.007 (1.003)	.011 (.966)	.032 (1.012)	-.030 (1.000)	.018 (.978)
Maintain weight ($n = 222$)		-.005 (.996)	.003 (1.060)	-.062 (.989)	.040 (1.015)	-.040 (1.025)
Gain weight ($n = 10$)		-.302 (.668)	-.216 (.983)	-.025 (.951)	.395 (.867)	-.225 (1.228)
	p	.124	.388	.896	.915	.289

**significant at p<.05 after the Bonferroni adjustment for thirty significance tests*

Note: Factor scores are standardized. Thus a mean of zero indicates that the mean score for that group was near the mean score for all respondents.

F. Association of Personal and Demographic Data With Attitudes Regarding Obese Adults (Continuous Variables)

Table 7 shows the association of personal and demographic data (continuous variables) with attitudes toward the obese (the five factors). After controlling for thirty-five significance tests, using the Bonferroni adjustment, significant differences were found on three of the five factors. Each of these differences related to only one of the six continuous variables.

The factor, *Dislike Obese*, was related to mean percent of time spent with the obese helping them lose weight. From our data, it appears that people who dislike the obese spend less of their professional practice time helping them to lose weight. We are unable to determine, from this study, whether practitioners who dislike the obese choose to spend less time with them or, conversely, practitioners grow to like the obese more as they spend more of their professional practice time with them.

The factor, *Weight Loss Through Self-Control*, was related to age. From our data, it appears that older practitioners are more likely to agree that weight loss is brought about by self-control. Although not significant after the Bonferroni adjustment, it appears from our data that dislike of the obese also increases with age.

The factor, *Obese are Like Others*, was related to mean percent of time spent with eating disorder patients. It appears that practitioners who spend more time with eating disorder patients tend to think the obese are like others to a greater degree than practitioners who spend less time with eating disorder patients. Although not significantly different after the Bonferroni adjustment, there appeared to be a similar relationship between the factor, *Obese are Like Others*, and percent of time spend with

the obese helping them lose weight. Again, this data does not shed light upon the direction of these relationships.

Table 7

Association of Personal and Demographic Data With Attitudes Toward the Obese (Continuous Variables)

Variable		Factor means (standard deviations)				
		Dislike obese	Weight loss through self-control	Obese hard to work with	Obese have negative emotions	Obese are like others
Age		.104	.180*	.017	-.019	.074
	p	.008	.000	.672	.630	.059
Mean percent of time with obese helping them lose weight ($n = 646$)		-.229*	-.008	.034	-.010	.082
	p	.000	.837	.386	.800	.036
Mean percent of time spent with eating disorder patients ($n = 646$)		-.031	-.087	.006	.026	.150*
	p	.434	.027	.872	.512	.000
Preferred weight change in pounds ($n = 646$)		-.005	.017	-.078	.018	-.066
	p	.908	.673	.048	.650	.094
Difficulty controlling own weight (scale of 5, higher number = less difficult) ($n = 646$)		.008	.031	-.088	-.063	-.068
	p	.842	.428	.026	.109	.084
Difficulty controlling own eating (scale of 5, higher number = less difficult) ($n = 646$)		-.014	-.011	-.062	-.022	-.061
	p	.732	.778	.119	.586	.120
Agreement with: *My whole approach to life is based upon my religion.* ($n = 646$)		.103	-.097	-.028	-.006	-.029
	p	.010	.015	.483	.884	.462

**significant at $p < .05$ after the Bonferroni adjustment for thirty-five significance tests*

CHAPTER 5

DISCUSSION

A. Introduction

This survey of preventive care specialists and registered dietitians focused on attitudes toward obese patients. Attitudes of these professional groups were compared to each other and to attitudes of Canadian and American nurses who were previously studied using a similar questionnaire. By performing a factor analysis on questionnaire statements, we were able to identify five factors, within which responses appeared to fall. These factors were *Dislike Obese*, *Weight Loss Through Self-Control*, *Obese are Hard to Work With*, *Obese Have Negative Emotions*, and *Obese are Like Others*. We then compared subjects' personal and demographic data with attitudes toward the obese based upon these five factors.

B. Summary and Discussion of Findings

1. Personal and Professional Characteristics of Preventive Care Specialists and Registered Dietitians Regarding Weight Control

a. Summary. We compared responses of preventive care specialists to questionnaire items regarding their personal and professional characteristics and attitudes regarding weight control to responses of registered dietitians to the same items. These items included mean percent of professional time spent with the obese helping them lose weight, mean percent of professional time spent with eating disorder patients, personal preference as to losing, maintaining, or gaining weight, preferred weight change in pounds, difficulty controlling own weight, and difficulty controlling own eating.

Preventive care specialists and registered dietitians, as groups, did not differ significantly with regard to personal and professional characteristics related to weight control, with the exception of perceived difficulty controlling their own weight. Registered dietitians had slightly more perceived difficulty controlling their own weight than preventive care specialists. Although the difference was not significant after the Bonferroni adjustment, registered dietitians were more likely to want to lose weight and less likely to want to maintain or gain weight than preventive care specialists.

b. Explanation of Finding. Registered dietitians, as a group, tend to be female. Preventive care specialists, on the other hand, are more likely to be male than female. This gender difference between professional groups might be responsible, or partially responsible, for differences in perceived difficulty controlling own weight and greater desire of dieticians to lose weight. Preventive care specialists and registered dietitians, in this study, differed significantly in terms of level of education, religion, and, prior to the Bonferroni adjustment, ethnicity. Preventive care specialists all held a doctoral degree, while only twenty of the 579 registered dietitians held a similar degree. Preventive care specialists were more likely than registered dietitians to be protestant, particularly Seventh Day Adventist. This was expected, as all of the preventive care specialists had received their doctoral degree from Loma Linda University, a Seventh Day Adventist institution. These differences might also have contributed to differences between the professional groups in perceived difficulty controlling their own weight and greater desire of dieticians to lose weight.

c. Convergence or Divergence With Past Literature. Registered dietitians, who are mostly women, tend to perceive more difficulty controlling their

weight, and are more likely to want to lose weight than preventive care specialists, who are more likely to be men. The following literature, which is reviewed in chapter 2, converges with this finding. Department of Health and Human Services reports that women are more likely to be obese than men (DHHS, 1998). J. Chrisler (1997), notes that the media has created an increasingly, and unrealistically, thin female body ideal, which causes fat phobia in women of all sizes. Tiggemann, et al. (2000) found sociocultural influences, especially the media, to exert great pressure on adolescent girls to be thin. Sisson, et al. (1997) found that female children tended to view themselves as fatter than their actual body composition, while male children viewed themselves as thinner than they actually were. Parents of these children identified obesity in their daughters with 88% accuracy, while they identified it in their sons with only 52% accuracy.

2. Agreement of Preventive Care Specialists and Registered Dietitians with Statements Regarding Obese Adults

a. Summary. On the twenty questionnaire statements regarding obesity, preventive care specialists differed significantly from registered dietitians on only two after the Bonferroni adjustment. On four other statements significant differences existed before, but not after, the Bonferroni adjustment. The two statements with which registered dietitians scored significantly higher in agreement than preventive care specialists were, "If given the choice most preventive care specialists/dietitians would prefer not to work with an obese patient" and "Preventive care specialists/dietitians feel uncomfortable when working with obese adult patients." On the latter statement,

differences remained significant after the Bonferroni adjustment. Both statements fell within the factor, "Dislike Obese."

There were three statements with which preventive care specialists scored significantly higher in agreement than registered dietitians. Two of these fell within the factor, "weight loss through self-control." These were, "The most effective way to control obesity is strict reduction of caloric intake" and "Obese adults should be confronted if found cheating on their diet." The latter was significant after the Bonferroni adjustment. The third statement with which preventive care specialists agreed significantly more than registered dietitians was "Few obese adults are pushy or aggressive." This question fell within the factor, "Obese are like others."

b. Explanation of Finding. Differences between preventive care specialists and registered dietitians, in terms of agreement with statements regarding obese adults, were not large. On fourteen of the statements there were no significant differences between the two groups. On the statements where there were significant differences, agreement varied less than one point on a five-point scale. The differences that did exist between the two professional groups seemed to indicate that preventive care specialists believe to a greater degree than registered dietitians that weight loss can be achieved through self-control. They may also see the obese as more like others, at least in terms of pushiness and aggressiveness, than registered dietitians. Registered dietitians agreed more with statements indicating a dislike of obese adult patients.

c. Convergence or Divergence With Past Literature. Jenks (1998) found that, among fourth and fifth grade teachers, prejudice toward the obese was associated with a belief that obesity is controllable. Crandall, et al. (1996) found that, among

American university students, prejudice against the obese was positively correlated with a belief system that attributed to individuals a responsibility for and control over life outcomes and events. Harvey (2000) found the strongest and most consistent predictor of prejudice toward the obese to be the Willpower subscale of Crandall's (1994) Anti-Fat Attitudes scale and the Belief in a Just World scale. Subjects, in Harvey's study, who believed the world was just and that people got what they deserved also tended to be prejudiced against the obese. These studies led us to predict that dislike for the obese would correlate positively with a belief that weight loss can be achieved through self-control. Supporting this prediction, a correlation of .20 (n=646) with a p value of <.000001 was found between two questionnaire statements, upon which there were no significant differences between our two study groups. These statements were: obesity in adults can be prevented by self-control and working with an obese adult usually repulses me. On other statements, as indicated above, however, preventive care specialists were more likely than registered dietitians to agree that weight loss is through self-control, while registered dietitians were more likely than preventive care specialists to agree with statements indicating a dislike for obese patients.

3. Responses of American Nurses, Canadian Nurses, Preventive Care Specialists, and Registered Dietitians to Statements Regarding Obese Adults

a. Summary. There were significant differences in agreement between American nurses, Canadian nurses, preventive care specialists, and registered dietitians with four of the five statements regarding obese adults that were common to our study and the studies being compared. Registered dietitians were somewhat less likely than preventive care specialists, and less than half as likely as American or Canadian nurses to

agree with the statement, "obesity in adults can be prevented by self-control." Registered dietitians were also less likely than any of the other groups to agree with "it is unlikely that an adult of normal weight would want to marry an obese adult" and "obese adults rarely express their true feelings." Preventive care specialists were most likely to agree with the statement, "most obese adults experience unresolved anger," followed by American nurses, registered dietitians, and, least likely to agree, Canadian nurses. There was no significant difference between groups with regard to agreement with "weight loss is only a matter of changing one's lifestyle."

b. Explanation of Finding. We hypothesized that registered dietitians and preventive care specialists would be more prejudiced against the obese than American or Canadian nurses because they are routinely required by their jobs to evaluate all patients as "normal weight" or as a "percent above or below normal weight." This study did not support our hypothesis. Preventive care specialists and registered dietitians in our study appeared to be less prejudiced toward obese adults than either American or Canadian nurses. It is possible that, through working with obese individuals, preventive care specialists and dietitians find their stereotypes about the obese to be countered by direct experience.

c. Convergence or Divergence With Past Literature. Preventive care specialists and registered dietitians are likely to spend more time than nurses talking with obese patients and working cooperatively with them to produce positive behavior change. Social psychologists have noted that contact between groups involving personal acquaintance and cooperative effort is an effective way of reducing prejudice (Gale Group, 2001). Our finding that preventive care specialists and registered dietitians are

less prejudiced toward the obese than American or Canadian nurses converges with this finding.

Morrison and O'Conner (1999) found men to be more prejudiced toward the obese than women. Our study diverged from this pattern. While nurses and registered dietitians are predominantly female, preventive care specialists are more likely to be male. Preventive care specialists agreed less frequently than American or Canadian nurses with the five disparaging statements regarding obese adults that we used to compare all four groups. They did, however, agree more frequently than registered dietitians with the same disparaging statements. Preventive care specialists also agreed more often than registered dietitians with other statements (which were not used to compare all four groups), as noted in section B2a. These statements fell within the factor, "weight loss through self-control." Registered dietitians, however, agreed more often than preventive care specialists with statements (other than the five which were used to compare all four groups) falling within the factor, "dislike obese." The divergence in results between our study and the Morrison and O'Conner study is likely due to differences between subject groups. Morrison and O'Conner studied adolescents and university students, a much younger and less educated population than our groups of professional adults.

4. Association of Personal and Demographic Data With Attitudes Toward Obese Adults (Categorical Variables)

a. Summary. Responses to the twenty questionnaire statements regarding obese adults tended to fall within five factors. We labeled these factors Dislike Obese, Weight Loss Through Self-Control, Obese are Hard to Work with, Obese Have Negative

Emotions, and Obese are Like Others. We than compared these factors to personal and demographic data of preventive care specialists and registered dietitians regarding weight-control (categorical variables).

When grouped by categorical variables (profession, gender, education, ethnicity, religion, and preference regarding losing, maintaining, or gaining weight) respondents differed significantly on only two of the five factors. These factors were Dislike Obese and Weight Loss through Self-Control.

On the factor, Dislike Obese, there were statistically significant differences between respondents based on profession and education. Registered dietitians scored higher on the factor Dislike Obese than preventive care specialists. Subjects without graduate degrees scored higher on the factor, Dislike Obese, than those who held graduate degrees. Similarly, subjects with only masters degrees scored higher on this factor than those with doctoral degrees.

On the factor, Weight Loss through Self-Control, there were significant differences between respondents based on profession and ethnicity. Preventive care specialists scored higher on this factor than registered dietitians, even when we controlled for gender and education. Asians scored higher on this factor than Caucasians or Hispanics.

b. Explanation of Finding. The factor, Dislike Obese, appears to be related to both profession and education. When we compared only the twenty registered dietitians with doctoral degrees to preventive care specialists, however, the difference between professions was no longer significant. The power for this test was low, however, due to small sample size.

Registered dietitians who had graduate degrees seemed to dislike obese adults less than those who did not have graduate degrees. It may be that graduate training influences these professionals to be more accepting of others who fall short of the ideal. Or, possibly, it is dietitians who are more open-minded, at least in terms of accepting obese adults, who tend to go on to achieve graduate degrees.

On the factor, Weight Loss through Self-Control, preventive care specialists scored higher than registered dietitians, even when we controlled for gender and education. Individuals who hold the belief that weight loss is through self-control may be more attracted to the field of preventive care than to dietetics. Conversely, it could be that preventive care training or practice encourages practitioners to believe that weight loss is through self-control, or that dietetic training or practice encourages practitioners to look at a wider range of factors contributing to obesity.

Asians believed that self-control is more important with regard to weight loss than either Caucasians or Hispanics. This might be due to cultural differences regarding knowledge and/or attitudes about weight loss. It might also be due to biological differences that mediate the experience of weight loss among various racial groups.

c. Convergence or Divergence With Past Literature. Although we did not find significant differences in attitudes toward the obese between Black and White subjects in our study, our sample size, with regard to African Americans was small. Perez-Lopez, et al. (2001) found anti-fat attitudes to be stronger in Caucasian than African-American undergraduates. Hebl and Heatherton (1998) found that Black female undergraduates in their study did not demonstrate the same prejudice toward large women as their White female undergraduate subjects. Both of these studies used

undergraduate students as subjects, whereas our subjects were professional adults. The differences in age and education between our subjects and those of previous studies may partially explain the divergence in findings.

Oberrieder et al. (1995) found no significant differences between dietetics students and registered dietitians who were given the Bray Attitude towards Obesity Scale. Maiman, et al. (1979), using a Likert-type scale of agreement, found professional nutritionists with less formal education to be less likely to hold a disparaging image of obese patients than their more highly educated peers. Our study converges with Maiman, et al. in finding a positive relationship between educational level and dislike of the obese at the undergraduate and "some post-bachelor training" level. Our study, however, goes on to find an inverse relationship between educational level and dislike of the obese among subjects holding graduate degrees.

5. Association of Personal and Demographic Data With Attitudes Toward Obese Adults (Continuous Variables)

a. Summary. We used the same five factors as above (Dislike Obese, Weight Loss Through Self-Control, Obese are Hard to Work with, Obese Have Negative Emotions, and Obese are Like Others) to compare groups based on continuous variables. These variables were age, mean percent of time spent with the obese helping them lose weight, mean percent of time spent with eating disorder patients, preferred weight change in pounds, difficulty controlling own weight, difficulty controlling own eating, and agreement with "my whole approach to life is based upon my religion."

The factor, Dislike Obese, was inversely related to the amount of professional practice time spent with the obese helping them lose weight. The factor, Weight Loss

through Self-Control, had a positive relationship with age. The factor, Dislike Obese, also increased with age, but was not significant after the Bonferroni adjustment. The factor, Obese are Like Others, had a positive relationship with amount of practice time spent with eating disorder patients. The factor, Obese are Like Others, also had a positive relationship with time spent with the obese helping them lose weight. The latter relationship, however, lost significance after the Bonferroni adjustment.

b. Explanation of Finding. Preventive care specialists and registered dietitians who spent more time with the obese helping them lose weight were more likely to feel positively toward them, and possibly more likely to feel that the obese are like others. It might be that time spent with the obese influenced these practitioners' attitudes toward them. Or it could simply be that practitioners who both liked the obese and felt that they were like others chose to spend more time with them.

Practitioners who spent more time with eating disorder patients were more likely to feel that the obese are like others. It could be that, when compared to eating disorder patients, the obese seem to deviant less from the norm.

Older practitioners felt more strongly than younger practitioners that weight loss is achieved through self-control. Older practitioners may also, possibly as a result of this attitude, dislike the obese more than younger practitioners. These differences may be due to the aging process or length of time as a practitioner. More likely, they are due to changing societal attitudes regarding weight loss over time. Older practitioners are likely to have received training at an earlier date than younger practitioners, and would, therefore, have been exposed to different attitudes and information regarding the etiology of obesity. It is even possible that, over time, professional training that might reduce

prejudice toward the obese is forgotten and individuals revert to levels of prejudice they held before such training.

c. Convergence or Divergence With Past Literature. In our study, the factor, Weight Loss through Self-Control, and possibly the factor, Dislike Obese, had positive relationships with age. Rand and Wright (2000) used line drawings ranging in size from very thin to very obese to elicit ratings from children, adolescents, young adults, and middle-aged adults. They found tolerance for body size variations to increase with age, particularly when comparing adults and children. Although the results of this study appear to diverge from ours, their subjects were not professionals and had a larger age-range than ours. Time elapsed since training, a possible contributing factor in our study, was not relevant to their study.

Bagley, et al. (1989) found older nurses to harbor greater negativity toward obese adults than younger nurses. This finding converges with ours, and would seem to be more relevant in terms of comparison, as both studies used professional, adult subjects and similar means of measuring attitudes. Our questionnaire, in fact, was a revised version of the one used by Bagley.

CHAPTER 6

SUMMARY AND CONCLUSIONS

A. Conclusions

Registered dietitians were significantly more likely than preventive care specialists to report that they feel uncomfortable when working with obese adult patients. They also were more likely to agree that if given the choice most preventive care specialists/dietitians would prefer not to work with an obese patient, though this difference did not remain significant after a Bonferroni adjustment. Preventive care specialists, on the other hand, were significantly more likely to agree that obese adults should be confronted if found cheating on their diet and, though not significant after the Bonferroni adjustment, the most effective way to control obesity is strict reduction of caloric intake. Also not significant after the Bonferroni adjustment was a greater tendency for preventive care specialists, as opposed to registered dietitians, to agree that few obese adults are pushy or aggressive. Preventive care specialists and registered dietitians in our study appeared to be less prejudiced toward obese adults than either American or Canadian nurses.

When we compared preventive care specialists to registered dietitians in terms of five factors relating to attitudes toward the obese and toward weight reduction strategies, registered dietitians scored higher on disliking the obese, while preventive care specialists scored higher on in believing that weight loss comes through self control and caloric restriction, even after we controlled for education and gender. Disliking the obese was inversely related to education. Subjects with graduate degrees were less likely than those without graduate degrees to dislike the obese, while those with doctoral degrees were less

likely than those with masters degrees to dislike the obese. Asians scored higher in believing that weight loss occurs through self control of caloric intake than either Caucasians or Hispanics.

Disliking the obese was inversely related to the amount of professional practice time spent with the obese helping them lose weight. Believing that weight loss came through self-control had a positive relationship with age. There was a positive relationship between the amount of professional practice time spent with eating disorder patients and believing that obese people are like others. Trends that lost significance after the Bonferroni adjustment were a positive relationship between age and disliking the obese, and a positive relationship between believing that the obese are like others and time spent with the obese helping them lose weight.

B. General Limitations of Study

1. Design and Internal Validity

Our study was cross-sectional. It is, therefore, impossible for us to determine the cause of the various relationships we were able to identify. For instance, are characteristics that are more common to preventive care specialists than registered dietitians (such as a tendency to believe that weight loss can be achieved through self control) a result of professional training or practice, or a trait that individuals carry with them to the profession? Likewise, do registered dietitians bring a tendency to dislike obese patients to the profession, or does dietetic training or practice shape this attitude. Longitudinal studies would be more likely to identify the cause of these attitudes. Although we randomly selected the California Dietetic Association members to whom we sent questionnaires, and sent questionnaires to all members of the American

Preventive Care Association, we could not control who actually responded to our questionnaire. Differences between responders and those who did not respond might have been a confounding factor in our results.

2. External Validity and Generalizability

Preventive care specialists in this study were all trained at Loma Linda University, School of Public Health. Loma Linda University is a Seventh-day Adventist Institution. Our preventive care specialist subjects were, therefore, more likely than other possible study groups to be Seventh-day Adventists, or Protestants from other denominations. We cannot assume that our results would generalize to other groups of preventive care specialists.

Registered dietitians in this study were all members of the California Dietetic Association. We cannot assume that our results would generalize to dietitians from other states or from countries other than the United States.

3. Analyses and Statistical Power

We compared only those registered dietitians with doctoral degrees to preventive care specialists on the factor, Dislike Obese. Although we found no differences between these groups regarding dislike for the obese, there was limited power for the test due to the small number of registered dietitians with doctoral degrees. Therefore, we cannot predict whether this finding would be replicated in a future study.

4. Measurement

Reactivity to our measurement procedure, i.e., questionnaire, might have been a confounding factor in this study. Subjects might have responded in a way they perceived

as less prejudiced, rather than with their true feelings, when answering questionnaire items designed to elicit attitudes.

C. General Implications of Findings

1. Theoretical Implications

a. Prejudice Toward the Obese is Predicted by Belief That Obesity Can Be Prevented Through Self-Control. Previous investigators have found prejudice toward the obese to be associated with beliefs that obesity can be controlled through willpower (Jenks, 1998), individuals have responsibility for and control over life outcomes and events (Crandall, et al., 1996), and the world is just and individuals get what they deserve (Harvey, 2000). Supporting this theory, we found a correlation of .20 (n=646) with a p value of <.000001 between two questionnaire statements: obesity in adults can be prevented by self-control, and working with an obese adult usually repulses me.

b. Contact Between Groups Involving Personal Acquaintance and Cooperative Effort Reduces Prejudice. Our study supported this theory. Registered dietitians and preventive care specialists in our study were less prejudiced toward obese patients than American or Canadian nurses who were previously studied. Registered dietitians and preventive care specialists are more likely than nurses to spend time with obese patients, getting to know them and working cooperatively with them to bring about health behavior change. We also found that practitioners who spent more time with obese patients helping them lose weight were less likely to dislike obese patients. This result, however, could be due to a selection bias. Those who dislike obese patients may simply choose not to work with them.

2. Research Implications

If registered dietitians and preventive care specialists were studied before, during and after training, and at intervals during professional practice, the origin and direction (increase or decrease) of attitudes related to practice might be identified. To determine whether professional training influences attitudes toward the obese, as measured by level of agreement with the statements in our questionnaire, it would be necessary to test subjects both before and after their professional training period. It might also be useful to review training courses and practice protocols to identify content that may produce, or fail to correct, negative attitudes toward obese patients. Revised training programs could then be developed which would help future practitioners examine their attitudes and beliefs regarding obese patients. Experimental groups that receive the revised training, and control groups that do not, could then be used to determine the effectiveness of these training programs. To determine whether professional experience influences attitudes toward the obese, as measured by level of agreement with the statements in our questionnaire, it would be necessary to test subjects both before and at some point during their professional practice.

It would be useful to determine the effects of negative attitudes of practitioners toward the obese. Experimental groups of practitioners, formed on the basis of factor scores, could be used for comparison. For instance, those scoring high on the factor, Dislike Obese, could be compared in terms of effectiveness of treatment outcome to practitioners scoring low on this factor. Or those scoring high on the factor, Weight Loss through Self-Control, could be compared in efficacy to those scoring low on the same

factor. Comparison could be based upon clients' perceptions of the practitioners' efficacy, or upon some measure of actual treatment results.

3. Applied Implications

It is important to recognize that, while registered dietitians and preventive care specialists appear to be less prejudiced toward the obese than American or Canadian nurses, some of these professionals hold attitudes which might have a negative impact on their ability to work effectively with their obese patients. Those developing training programs or continuing education classes for these professionals might want to address this. Future practitioners should be led to examine their personal and professional attitudes, and the impact these attitudes might have on their professional efficacy when working with obese patients. Self-awareness resulting from such introspection might lead them to change or moderate negative attitudes and behaviors, thereby, enhancing their ability to work with obese patients.

4. Implications for Preventive Care Specialists

Thirty-seven percent of preventive care specialists who responded to our questionnaire agreed with the statement, *Obesity in adults can be prevented by self-control*. This is a high percentage, considering preventive care specialists are highly trained professionals who should be aware of the complex etiology of obesity. Most weight management programs stress that self-control is not the answer to weight loss. Effective weight management requires complex personal and lifestyle change. To effectively help others manage their weight, a practitioner must help them examine their lifestyle, thought processes, environmental and physiological cues, motivation, and any number of other issues that might be affecting their eating, and/or exercising behavior.

It is important that preventive care specialists examine their attitudes and behaviors toward their obese clients, and their level of knowledge regarding the etiology of obesity. Professional training programs for these practitioners should include sessions that encourage such introspection. Professional training programs for preventive care specialists, and others who work with the obese, should be reviewed to determine whether enough emphasis is being placed on the multifaceted nature of the etiology of obesity and of health behavior change.

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APPENDIX A: PERMISSION TO USE ATTITUDINAL SCALE

THE UNIVERSITY OF CALGARY
2500 University Drive N.W., Calgary, Alberta, Canada T2N 1N4

Faculty of SOCIAL WORK

Telephone (403) 220-5942
FAX (403) 282-7269

September 21st, 1994

Dear Ms Gabriel,
I am glad, on behalf of my colleagues and myself, to give you permission to reproduce and use our scale designed to measure attitudes to obese persons.
As we discussed by phone, this scale could be adapted slightly in order to make it suitable for use by dieticians.
Yours sincerely,

Chris Bagley,
Professor.

Celebrate! 25 THE UNIVERSITY OF CALGARY 1966-1991

APPENDIX B: LETTER TO REGISTERED DIETITIANS

LOMA LINDA UNIVERSITY

School of Public Health

Loma Linda, California 92350
(909) 824-4546
FAX: (909) 824-4087

Dear California Dietetic Association Member,

You have been chosen to participate in a survey of 1,000 randomly selected CDA members. This 2 page questionnaire is **completely confidential**. Your cooperation in filling it out is greatly appreciated. Please return it as soon as possible within the next 2 weeks. Please use the enclosed stamped, addressed envelop to return your questionnaire.

We will assume that by returning the questionnaire you consent to use of the data for research purposes. This research may help identify training and continuing education needs of dietetic professionals.

Again, let us extend our sincere thanks for your participation in this research project.

Sincerely,

Maryanna Gabriel, MPH, MEd, RD, CHES
Doctoral Student

Glen Blix, DrPH, MPH
Assistant Professor

APPENDIX C: QUESTIONNAIRE FOR REGISTERED DIETITIANS

THIS QUESTIONNAIRE IS COMPLETELY CONFIDENTIAL

1. **Age:**___ years 2.**Height:**___ feet___inches 3.**Weight**____pounds 4.**Gender:** ___female ___male
(1) (2)

5. Please **CIRCLE** the **ONE** category which best describes your ethnic or racial background:

African American	Hispanic	Asian	Native American	Caucasian	Biracial
(1)	(2)	(3)	(4)	(5)	(6)

6. Please mark **ONE** category with an **X** and **fill in the number of pounds** if applicable:

(1)____ I would prefer to lose (a)_____ **pounds**
(2)____ I would prefer to maintain my current weight
(3)____ I would prefer to gain (b)_____ **pounds**

7. How difficult is it for you to control your weight? Please **circle one** category:

Extremely Difficult	Moderately Difficult	Somewhat Difficult	Slightly Difficult	Not at all Difficult
(1)	(2)	(3)	(4)	(5)

8. How difficult is it for you to control your eating? Please **circle one** category:

Extremely Difficult	Moderately Difficult	Somewhat Difficult	Slightly Difficult	Not at all Difficult
(1)	(2)	(3)	(4)	(5)

9. Please mark with an **X** the **ONE** category which best describes your educational background:

(1)____ **2 year degree**
(2)____ **4 year degree**
(3)____ **some post-bachelor training (excluding dietetic internship)**
(4)____ **masters degree**
(5)____ **doctoral degree**
(6)____ **other - please explain** _____

10. How much employment experience do you have as a dietitian? ___**years** ___**months**
(1) (2)

11. Please **circle** any **ADA Dietetic Practice Groups** to which you belong:

(1) Dietetics in Developmental and Psychiatric Disorders	(10) Public Health Nutrition	(19) Dietitians in Nutrition Support
(2) Dietetics in Physical Medicine and Rehabilitation	(11) Gerontological Nutritionists	(20) Perinatal Nutrition
(3) Dietitians in General Clinical Practice	(12) Vegetarian Nutrition	(21) School Nutrition Services
(4) Nutrition Entrepreneurs (formerly CN)	(13) Hunger and Malnutrition	(22) Clinical Nutrition Management
(5) Consultant Dietitians in Health Care Facilities	(14) Environmental Nutrition	(23) Technical Practice in Dietetics
(6) Dietitians in Business and Communications	(15) Oncology Nutrition	(24) Dietetic Educators of Practitioners
(7) Sports, Cardiovascular, and Wellness Nutritionists	(16) Renal Dietitians	
(8) Dietitians in College and University Food Service	(17) Pediatric Nutrition	(25) Nutrition and Ed. for the Public
(9) Nutrition Educators of Health Professionals	(18) Diabetes Care and Education	(26) Nutrition Research

12. In your practice what percent of your time is spent working with obese people to help them lose weight _____ %

13. In your practice what percent of your time is spent working with eating disorder patients?____%

Please read the following statements and mark with an X the ONE answer which most closely identifies your response to each.

14. **The most effective way to control obesity is strict reduction of caloric intake.**
___Strongly Agree ___Agree ___Uncertain ___Disagree ___Strongly Disagree
(1) (2) (3) (4) (5)

15. **Obesity in adults can be prevented by self-control.**
___Strongly Agree ___Agree ___Uncertain ___Disagree ___Strongly Disagree
(1) (2) (3) (4) (5)

16. **Obese adults should be put on a weight-loss diet when in the hospital.**
___Strongly Agree ___Agree ___Uncertain ___Disagree ___Strongly Disagree
(1) (2) (3) (4) (5)

17. **Few obese adults are pushy or aggressive.**
___Strongly Agree ___Agree ___Uncertain ___Disagree ___Strongly Disagree
(1) (2) (3) (4) (5)

18. **Working with an obese adult is emotionally draining.**
___Strongly Agree (1) ___Agree (2) ___Uncertain (3) ___Disagree (4) ___Strongly Disagree (5)

19. **Dietitians feel uncomfortable when working with obese adult patients.**
___Strongly Agree (1) ___Agree (2) ___Uncertain (3) ___Disagree (4) ___Strongly Disagree (5)

20. **Obese adults should be confronted if found cheating on their diet.**
___Strongly Agree (1) ___Agree (2) ___Uncertain (3) ___Disagree (4) ___Strongly Disagree (5)

21. **It is unlikely that an adult of normal weight would want to marry an obese adult.**
___Strongly Agree (1) ___Agree (2) ___Uncertain (3) ___Disagree (4) ___Strongly Disagree (5)

22. **Weight loss is only a matter of changing one's lifestyle.**
___Strongly Agree (1) ___Agree (2) ___Uncertain (3) ___Disagree (4) ___Strongly Disagree (5)

23. **Working with an obese adult is stressful.**
___Strongly Agree (1) ___Agree (2) ___Uncertain (3) ___Disagree (4) ___Strongly Disagree (5)

24. **Working with an obese adult usually repulses me.**
___Strongly Agree (1) ___Agree (2) ___Uncertain (3) ___Disagree (4) ___Strongly Disagree (5)

25. **Obese adult patients are no more demanding than other patients.**
___Strongly Agree (1) ___Agree (2) ___Uncertain (3) ___Disagree (4) ___Strongly Disagree (5)

26. **I often feel impatient when working with an adult obese patient.**
___Strongly Agree (1) ___Agree (2) ___Uncertain (3) ___Disagree (4) ___Strongly Disagree (5)

27. **If given the choice most dietitians would prefer not to work with an obese patient.**
___Strongly Agree (1) ___Agree (2) ___Uncertain (3) ___Disagree (4) ___Strongly Disagree (5)

28. **It is easy to feel empathy for an obese adult.**
___Strongly Agree (1) ___Agree (2) ___Uncertain (3) ___Disagree (4) ___Strongly Disagree (5)

29. **Few obese adults are over-indulgent.**
___Strongly Agree (1) ___Agree (2) ___Uncertain (3) ___Disagree (4) ___Strongly Disagree (5)

30. **Obese adults rarely express their true feelings.**
___Strongly Agree (1) ___Agree (2) ___Uncertain (3) ___Disagree (4) ___Strongly Disagree (5)

31. **Most obese adults feel sorry for themselves.**
___Strongly Agree (1) ___Agree (2) ___Uncertain (3) ___Disagree (4) ___Strongly Disagree (5)

32. **Most obese adults experience unresolved anger.**
___Strongly Agree (1) ___Agree (2) ___Uncertain (3) ___Disagree (4) ___Strongly Disagree (5)

33. **Few obese adults are lazy.**
___Strongly Agree (1) ___Agree (2) ___Uncertain (3) ___Disagree (4) ___Strongly Disagree (5)

34. What is your religious affiliation? Please <u>circle one</u>:

Buddhist **Catholic** **Hindu** **Jew** **Moslem**
Protestant _____ (please indicate denomination) **Other** _____ (please indicate) **None**

35. **My whole approach to life is based upon my religion. Please <u>circle one</u> response:**

Strongly Agree (1) **Agree (2)** **Uncertain (3)** **Disagree (4)** **Strongly Disagree (5)** **Does not apply (6)**

APPENDIX D: LETTER TO PREVENTIVE CARE SPECIALISTS

LOMA LINDA UNIVERSITY

School of Public Health

Loma Linda, California 92350
(909) 824-4546
FAX: (909) 824-4087

July 22, 1995

Dear Preventive Care Specialist:

It has been one month since you received a copy of the enclosed questionnaire. As a committed member of our profession, your participation in this research project is highly valued.

Please take time now (approximately 10 minutes) to fill out this completely **confidential** questionnaire. Your responses to all items will be used for statistical analysis only.

Thank you in advance for returning your questionnaire. Please use the enclosed envelope. Postage has been prepaid.

Sincerely,

Maryanna Gabriel, M.P.H., RD
Preventive Care Doctoral Student

APPENDIX E: QUESTIONNAIRE FOR PREVENTIVE CARE SPECIALISTS

THIS QUESTIONNAIRE IS COMPLETELY CONFIDENTIAL

1. **Age:**____ years 2. **Height:**___ feet___inches 3. **Weight**___pounds 4. **Gender:** ___female ___male
(1) (2)

5. Please **CIRCLE** the **ONE** category which best describes your ethnic or racial background:

(1) **African American** (2)**Hispanic** (3)**Asian** (4)**Native American** (5)**Caucasian** (6)**Biracial**

6. Please mark **ONE** category with an **X** and **fill in the number of pounds** if applicable:
(1)____ I would prefer to lose (a)_____ **pounds**
(2)____ I would prefer to maintain my current weight
(3)____ I would prefer to gain (b)_____ **pounds**

7. How difficult is it for you to control your weight? Please **circle one** category:

Extremely Difficult	Moderately Difficult	Somewhat Difficult	Slightly Difficult	Not at all Difficult
(1)	(2)	(3)	(4)	(5)

8. How difficult is it for you to control your eating? Please **circle one** category:

Extremely Difficult	Moderately Difficult	Somewhat Difficult	Slightly Difficult	Not at all Difficult
(1)	(2)	(3)	(4)	(5)

9. What year did you graduate from your Preventive Care (or Health Science) program? 19____

10. Are you a Registered Dietitian (RD)? Please **circle one: yes no**

11. If you are an RD, please **circle** any **ADA Dietetic Practice Groups** to which you belong:

(1) Dietetics in Developmental and Psychiatric Disorders
(2) Dietetics in Physical Medicine and Rehabilitation
(3) Dietitians in General Clinical Practice
(4) Nutrition Entrepreneurs (formerly CN)
(5) Consultant Dietitians in Health Care Facilities
(6) Dietitians in Business and Communications
(7) Sports , Cardiovascular, and Wellness Nutritionists
(8) Dietitians in College and University Food Service
(9) Nutrition Educators of Health Professionals
(10) Public Health Nutrition
(11) Gerontological Nutritionists
(12) Vegetarian Nutrition
(13) Hunger and Malnutrition
(14) Environmental Nutrition
(15) Oncology Nutrition
(16) Renal Dietitians
(17) Pediatric Nutrition
(18) Diabetes Care and Education
(19) Dietitians in Nutrition Support
(20) Perinatal Nutrition
(21) School Nutrition Services
(22) Clinical Nutrition Management
(23) Technical Practice in Dietetics
(24) Dietetic Educators of Practitioners
(25) Nutrition and Ed. for the Public
(26) Nutrition Research

12. In your practice what percent of your time is spent working with obese people to help them lose weight _____ %

13. In your practice what percent of your time is spent working with eating disorder patients?____%

Please read the following statements and mark with an X the ONE answer which most closely identifies your response to each.

14. **The most effective way to control obesity is strict reduction of caloric intake.**
___Strongly Agree ___Agree ___Uncertain ___Disagree ___Strongly Disagree
(1) (2) (3) (4) (5)

15. **Obesity in adults can be prevented by self-control.**
___Strongly Agree ___Agree ___Uncertain ___Disagree ___Strongly Disagree
(1) (2) (3) (4) (5)

16. **Obese adults should be put on a weight-loss diet when in the hospital.**
___Strongly Agree ___Agree ___Uncertain ___Disagree ___Strongly Disagree
(1) (2) (3) (4) (5)

17. **Few obese adults are pushy or aggressive.**
___Strongly Agree ___Agree ___Uncertain ___Disagree ___Strongly Disagree
(1) (2) (3) (4) (5)

18. **Working with an obese adult is emotionally draining.**
___Strongly Agree ___Agree ___Uncertain ___Disagree ___Strongly Disagree
(1) (2) (3) (4) (5)

19. **Preventive care specialists feel uncomfortable when working with obese adult patients.**
___Strongly Agree (1) ___Agree (2) ___Uncertain (3) ___Disagree (4) ___Strongly Disagree (5)

20. **Obese adults should be confronted if found cheating on their diet.**
___Strongly Agree (1) ___Agree (2) ___Uncertain (3) ___Disagree (4) ___Strongly Disagree (5)

21. **It is unlikely that an adult of normal weight would want to marry an obese adult.**
___Strongly Agree (1) ___Agree (2) ___Uncertain (3) ___Disagree (4) ___Strongly Disagree (5)

22. **Weight loss is only a matter of changing one's lifestyle.**
___Strongly Agree (1) ___Agree (2) ___Uncertain (3) ___Disagree (4) ___Strongly Disagree (5)

23. **Working with an obese adult is stressful.**
___Strongly Agree (1) ___Agree (2) ___Uncertain (3) ___Disagree (4) ___Strongly Disagree (5)

24. **Working with an obese adult usually repulses me.**
___Strongly Agree (1) ___Agree (2) ___Uncertain (3) ___Disagree (4) ___Strongly Disagree (5)

25. **Obese adult patients are no more demanding than other patients.**
___Strongly Agree (1) ___Agree (2) ___Uncertain (3) ___Disagree (4) ___Strongly Disagree (5)

26. **I often feel impatient when working with an adult obese patient.**
___Strongly Agree (1) ___Agree (2) ___Uncertain (3) ___Disagree (4) ___Strongly Disagree (5)

27. **If given the choice most preventive care specialists would prefer not to work with an obese patient.**
___Strongly Agree (1) ___Agree (2) ___Uncertain (3) ___Disagree (4) ___Strongly Disagree (5)

28. **It is easy to feel empathy for an obese adult.**
___Strongly Agree (1) ___Agree (2) ___Uncertain (3) ___Disagree (4) ___Strongly Disagree (5)

29. **Few obese adults are over-indulgent.**
___Strongly Agree (1) ___Agree (2) ___Uncertain (3) ___Disagree (4) ___Strongly Disagree (5)

30. **Obese adults rarely express their true feelings.**
___Strongly Agree (1) ___Agree (2) ___Uncertain (3) ___Disagree (4) ___Strongly Disagree (5)

31. **Most obese adults feel sorry for themselves.**
___Strongly Agree (1) ___Agree (2) ___Uncertain (3) ___Disagree (4) ___Strongly Disagree (5)

32. **Most obese adults experience unresolved anger.**
___Strongly Agree (1) ___Agree (2) ___Uncertain (3) ___Disagree (4) ___Strongly Disagree (5)

33. **Few obese adults are lazy.**
___Strongly Agree (1) ___Agree (2) ___Uncertain (3) ___Disagree (4) ___Strongly Disagree (5)

34. What is your religious affiliation? Please <u>circle one</u>:

Buddhist **Catholic** **Hindu** **Jew** **Moslem**
Protestant _____ **Other** _____ **None**
(please indicate denomination) (please indicate)

35. **My whole approach to life is based upon my religion.** Please <u>circle one</u> response:

Strongly Agree (1) **Agree** (2) **Uncertain** (3) **Disagree** (4) **Strongly Disagree** (5) **Does not apply** (6)